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An Address
ON
SOME FORMS OF CHRONIC ABDOMINAL SURGICAL DISEASE.

Delivered before the Bury and District Medical Society on Nov. 24th, 1903.

BY E. STANMORE BISHOP, F.R.C.S. ENG.,
HONORARY SURGEON, ANCOATS HOSPITAL, MANCHESTER.

MR. PRESIDENT AND GENTLEMEN,—In the first place, permit me to offer you, the members of this society, my sincere thanks for the honour you have done me by requesting me to appear before you to-night and to deliver to you an address on a subject connected with my own special work, that of abdominal surgery. Your very courteous secretary made only one stipulation and that was that it should be one of general interest. I have endeavoured to comply with that proviso by asking your attention to certain points connected with some of the more chronic forms of abdominal disease.

Acute abdominal diseases with their lightning-like onset, their rapid course, and their often tragic endings appeal to that dramatic sense that is more or less present in us all. They arrest the attention and compel their study and the rapid growth of the surgery of this region has thrown great and almost complete light upon their causation, pathology, and treatment. Chronic diseases have none of this attractiveness. The commencement of any one of them is so gradual that it is often extremely difficult to fix its date within a period of weeks or months; its course is for a long time frequently associated with but indefinite symptoms and when at length it terminates fatally the final result is brought about by so many complicating pathological states that even a post-mortem examination may fail to apportion correctly the amount of damage done by the orignal factor. Perhaps for this very reason they deserve, and will repay, closer examination. Many of these conditions, moreover, are capable of efficient treatment and even cure by surgical means if they can be detected before such complications arise. Such cases are found especially in connexion with the digestive tract, either in this alone or in connexion with those two main accessory secretory glands, the liver and pancreas, and the tubes which convey their secretion into that tract.

Many researches, such as those of Bloch, Terrier, Gilbert, Girode, Lippmann, and others on the bacteriology of the biliary passages, go far towards legitimising the belief now very generally held that the formation of biliary calculi is greatly favoured, if it is not entirely caused, by the presence in the gall-bladder and ducts of micro-organisms which normally are foreign to those canals. Gilbert and Lippmann[1] have indeed shown that normal bile is not absolutely sterile, as believed by Netter[2] and Naunyn,[3] but the organisms found by them were almost entirely anaerobic, being the micrococcus ovalis of Escherich, the bacillus perfringens of Veillon and Zuber, and the bacillus radiiformis of Rist and Guillemot, none of which are pyogenic. Once only they found the staphylococcus albus and in two cases the colon bacillus. The same observers, however, found that the fluid obtained from the bile passages at the time of operations for biliary calculi was always fertile—that is to say, that when grown upon culture material it always showed colonies—and they say that whenever aerobic micro-organisms were present they invariably belonged to the species of the colon bacillus, the most frequent of all being the colon bacillus itself; this is, to use their own expression, "le grand envahisseur des voies biliaires." Gilbert, Fournier, and Domenici[4] found the bacterium coli in a certain percentage of gall-stones, whilst Chiari and Dufourt cite cases in which gall-stone formation apparently took place as a consequence of previous attacks of typhoid fever. Ochsner[5] also emphasises this connexion between typhoid fever and biliary calculi. He has noticed also a connexion with previous attacks of appendicitis. Other writers have suggested the effect of previous attacks of influenza, typhus fever, and some other infective diseases in assisting this formation.

Scott Carmichael's experiments on animals, on the other hand appeared to him to justify the opinion that concretions can be formed in the gall-bladder without the presence of the bacterium coli or typhosi. He introduced pebbles, glass beads, or balls of pith into the gall bladders of dogs and found concretions of carbonate of lime deposited upon them, never of cholesterin, and this was not altered when, as in some cases, he injected cultures of typhoid fever or other organisms either at the same time or at a later date. It might be suggested in connexion with this statement that a more exhaustive examination should be made of all stones removed from the gall-bladder or ducts. The specimens I show evidently differ greatly not only in form but in composition, and it might be found that just as in the urinary tract we have three or four well-defined species of calculi which differ in appearance, seat of origin, and symptoms, so also here all biliary calculi may not be formed in the same way or in the same locality, as they certainly are not of the same material, and that this difference may have some connexion with the site of their formation. Thus, cholesterin stones are certainly more often found in the gall-bladder and might prove to be always formed there; bilirubin calcium stones are often found in the ducts and may prove to be usually formed in the liver, passing down the hepatic duct whilst of small size and gradually enlarging in consequence of deposits from the bile which would be constantly in contact with them, and so on. This might explain why in some cases we find single stones whilst the more frequent variety is multiple and faceted, why in some cases they are found only in the gall-bladder, in others in the common duct, and in still others, of which this is a good specimen, in which minute gall-stones were found in almost every duct in the liver besides the large one seen, which was impacted in the immensely dilated common duct.

Naunyn[6] perhaps sums up the question in terms which all may accept: "The invasion of bacterium coli constitutes at any rate an occurrence to which stagnation of the bile can occasionally lead, and which is capable of producing cholangitis and cholecystitis, and these again may give rise to the formation of gall-stones."

When once cholecystitis has commenced it may end in suppurative cholecystitis, empyema of the gall bladder, or gangrene of the same organ; the inflammation may spread along the pancreatic duct and produce acute hæmorrhagic pancreatitis or pancreatic sloughing and abscess, but these conditions are outside the purpose of this address; they are only mentioned in order to emphasise the untoward possibilities which may follow the entrance of infective material into the biliary passages. The main importance of them to us at present is the suggestion they carry that possibly a closer observation of patients who have at any time suffered from typhoid fever or any of the other infective diseases previously mentioned might bring to light earlier symptoms than those upon which we are accustomed to rely. Such early symptoms would be of very great value and would probably be such as would escape the patient's own notice or, indeed, that of any but the trained observation of the patient's own medical attendant.

If the symptoms produced by the presence of biliary calculi are reviewed they will be found to be very obvious in some cases but somewhat vague and confused in others. Repeated attacks of colicky pain more or less referred to the right hypochondrium with transient jaundice and absence of bile from the stools coincidently with its presence in the urine, are all old and well-known signs. But the last three are by no means always present. The difference between the older and later views on this subject is well shown by Meredith's article in Heath's Dictionary of Surgery published in 1886, in which he mentions aspiration of a cystic tumour in the hepatic region as useful as a means of diagnosis, especially with a view to detecting the presence of calculi. No one, I presume, would suggest this now. Every operating surgeon knows that when calculi are present it is quite the exception to find any enlargement of the gall-bladder, much less one that could be felt. On the contrary, this viscus is usually shrunken and contracted and may be

[1] Comptes Rendus, Société de Biologie, 1902, p. 718.
[2] Progrès Médical, 1886.
[3] Klinik der Cholelithiasis, 1892.
[4] Journal of Physiology and Bacteriology, vol. viii., p. 453.
[5] Annals of Surgery, June, 1902, p. 708.
[6] Loc. cit.

difficult to find, tucked away as it is under the right lobe of the liver, even when the abdomen is opened. Courvoisier[7] has formulated the law that in 80 per cent. of such cases there is contraction of the gall-bladder, whilst in 90 per cent. of cases of enlargement of the gall-bladder the obstruction is due to other causes. Of far more value is the painful point described by Robson,[8] which is found one inch above and to the right of the umbilicus, or to be exact at the junction of the upper two-thirds with the lower third of a line drawn from the ninth rib to the umbilicus and which, like the McBurney point in appendicitis, is painful on deep pressure. Another test, described by Murphy of Chicago,[9] is extremely useful. The patient is placed in the sitting position, bending forwards; the examiner, standing behind, insinuates his fingers beneath the edge of the ribs on the right side, the finger tips being bent upwards; when the abdominal muscles are sufficiently relaxed to permit the lower edge of the liver being recognised the finger tips are pressed as far as possible beneath its lower surface. The patient is made to take a deep inspiration. The diaphragm forces the liver down until the gall-bladder touches the examining fingers when the inspiration suddenly ceases as though it had been shut off. Whilst definite indications are of course of most value it is of equal importance that not too much weight should be attached to the absence of symptoms which the force of previous teaching may have led us to expect but which the later light obtained by operation has shown to be untrustworthy. Thus jaundice, even temporary, is only present when calculi block the hepatic or common duct. Its absence is no proof that the gall-bladder itself is not packed with calculi. The absence of bile from the stools or its presence in the urine has simply the same significance. The absence of the time honoured pain in the right shoulder I have so frequently noted that I have ceased to attach any serious importance to its presence or absence. In several of my cases the pain has been felt below, between, and over the scapulæ, especially the right, but it has seldom been felt higher. Its occurrence appears to mark only certain positions of the stone after that has entered the common duct.

Passing now from diagnosis to the question of treatment at the outset a most important consideration arises. Since the formation of calculi presupposes—if we accept the evidence I have given above and other evidence which is available but which there is no time to detail—some amount of inflammatory sepsis in the biliary canals, which may lead to more acute and destructive changes, is it wise to delay the removal of these foreign bodies and the drainage of these canals until symptoms become imperative? In the parallel case of urinary calculi no such delay would be advised and the possible or probable advent of a chronic cystitis would be considered an additional reason for anticipating this by prompt removal of the foreign body. In all the cases which I have operated upon some amount of inflammatory change either in the walls of the gall-bladder and ducts or as evinced by the presence of pus in the contained fluid has been present, whilst in all but one the symptoms of auto-intoxication or inflammation have promptly disappeared within a few weeks of the cholecystotomy. Of course, in saying this, I am excluding those cases which were associated with carcinoma.

Prolonged presence of biliary calculi has other and no less objectionable results. I have already referred to pancreatitis. This has been shown by Opie, Halstead, Lancereaux,[10] and Moynihan[11] to depend, sometimes at least, upon the presence of a stone in the ampulla of Vater, which damming back the current of bile from the common duct favours its entrance into the duct of Wirsung and so produces infection of that canal, gradually spreading further and further into the pancreatic tissues. Should that infection produce destruction of the islands of Langerhans glycosuria will result and the prospects of a successful operation be reduced almost to a minimum. Short of this, impaction or lodgment of a calculus in the common duct will cause jaundice and its accompanying impairment of coagulability of the blood, greatly increasing the risk of prolonged capillary hæmorrhage during and after interference. My first case, that of a woman, aged 52 years, in whom symptoms had only existed for 12 months, died from this cause. At the necropsy 11 days later no other cause of death could be found but a large quantity of clots in the peritoneal cavity. This case occurred in 1897 before the advantages of a preliminary dosing with calcium chloride were so well appreciated as they are now, owing to the advice and example of Mayo Robson. Even now, however, there is a great advantage in being able to anticipate if possible the occurrence of this complication.

Other consequences of the retention of calculi in the biliary ducts, whilst perhaps not so clearly demonstrable, equally merit attention. Papillomata of the gall-bladder, adenomata of the bladder and ducts, and especially cancer, have all been observed in connexion with these formations. How far the latter may be looked upon as a consequence of the continuous and prolonged irritation they produce is even yet a very debateable point. Robson says that as a primary affection of the ducts cancer is rare and that it is usually secondary to gall-stones or to extension from adjoining organs. Zenker[12] found gall-stones in 85 per cent. of all cancers of the gall-bladder and Musser fixes the percentage at 69 per cent., Courvoisier at 85·7 per cent., and Brodowski at 100 per cent. Naunyn believed that half of the cases of chronic jaundice diagnosed as cholelithiasis are complicated with cancer or are due to cancer alone.

That cancer does not always follow even very prolonged existence of biliary calculi is evident from numerous cases detailed by various operators. A case of my own may be of interest in this relation. In April, 1903, Mr. J. D. Willis of Manchester brought for operation a woman, unmarried, aged 48 years, with the following history. She had suffered from attacks of colicky pain in the epigastric and right hypogastric regions at intervals since she was 16 years old—i.e., for 32 years. When four years old she was taken to New Zealand, where she lived for 18 months. After her first severe attack which did not last long, she was free from pain for from four to five years, when she had a severe illness lasting about eight months. During this time she was jaundiced but had never been so since. In the course of this illness a suppurating hydatid cyst appeared and burst externally in the epigastrium. Since this time she had never been free for any length of time from attacks of pain. Five or six years ago the pain was very severe and more continuous for about 18 months. Some of these attacks had been associated with vomiting, but not all, and she attributed its occurrence to the morphia she had been given hypodermically. Her last attack was on April 10th and 11th, 1903. These attacks had been recurring every week or fortnight, but for the last few weeks they had come on as often as two or three times a week. They had nothing to do in point of time with the menstrual periods which had been regular until the menopause two years ago. The patient was of good colour, with no jaundice, but she had lately lost flesh. Each attack was described as beginning with a dull ache over the liver or a feeling of indigestion; the acuter pain sometimes started suddenly and sometimes remained subacute for a long time, gradually increasing. At times she felt a dull pushing sensation in the right hypochondrium; at times it made her jump by a shooting sensation. Aching also was felt across the back below the shoulder blades. It was worse on the right side, sometimes over the scapula, but it never went up to the acromion. There had never to her knowledge been bile in the urine or a want of it in the fæces. On April 19th cholecystotomy was performed and a single unfaceted stone was removed from the gall-bladder. Nothing was felt in the ducts. There was a long Riedel's lobe hanging down like the flap of a saddle for five or six inches below the general line of the liver. When this was drawn up the omentum was found firmly adherent beneath to it, to the pylorus, the stomach, the colon, and the duodenum. After these adhesions were separated the small contracted gall-bladder was found deep down in its fissure. Drainage was used as some muco-pus escaped on removal of the calculus. Ultimately the wound entirely closed and in October Mr. Willis reported that she was in perfect health.

Nevertheless, the frequent association of carcinoma with cases of long-standing cholelithiasis must have great weight in the prognosis and should, I conceive, add additional force to the indication for earlier removal of calculi when once their presence is demonstrated than has previously been the case.

[7] Deutsches Archiv für Klinische Medicin, 1889.
[8] Diseases of the Gall-bladder and Bile ducts, p. 37.
[9] Medical News, 1903, vol. i., p. 827.
[10] Traité des Maladies du Foie et du Pancréas, 1898.
[11] Diseases of the Pancreas, 1902, p. 66.
[12] Deutsches Archiv für Klinische Medicin, 1889.

Although the tumour I show you is not connected with the presence of gall-stones its extremely rare character may render it interesting in any discussion bearing upon hepatic growths. I have not been able to find in the literature any description of a similar one nor, as I understand, has Mr. Mayo Robson, in the third edition of whose work, about to appear, it will be figured. It has already been described and figured in THE LANCET.[13] It is, as you will see, the gall-bladder itself, transformed into a multilocular cystic mass, and was removed in December, 1900, from a woman, aged 42 years, sent to me by Mr. J. E Harburn of Buxton, who had complained for 18 months of a sensation of weight with heavy, dull sickly pain. She had had two attacks of jaundice, the last eight years previously. There was a rounded solid body in the gall-bladder area moving with respiration and moveable to some extent from side to side. After removal, which was somewhat difficult owing to the presence of very large veins in the strongly adherent omentum, the intestine also being adherent, she recovered and went home perfectly well two months later.

Passing from this region I ask your attention to another large class of chronic abdominal complaints, those, namely, affecting the large intestine. Before anything is said as to the diseases which affect this viscus it is interesting to note Dr. R. W. Leftwich's views[14] as to the mechanism by which its function is carried on. Formerly its contents were believed to be equally under the influence of peristalsis, as are those of the small intestine—that is, that they were gradually forced onwards by a wave of muscular action in its own walls. It is evident, however, that if this is the case the process is carried on under conditions differing from those which are present in the latter. The small intestine is free on all sides; the large intestine, at least so far as its two main arms are concerned, is fixed. The longitudinal fibres of the small intestine surround its tube on all sides; in the large intestine they are almost wanting except as three strong bands placed at an equi distance around. These fibres are not continuous with those of the small intestine, which end at the ileo-cæcal valve, but start afresh from the appendix, to which they are the best guide. The circular fibres of the small intestine form a well-marked and important coat which is pretty equally thick in its whole extent; the circular fibres of the large intestine are comparatively much more scanty and not so equably distributed. The canal of the small intestine is but slightly different in calibre in all its parts and any difference is gradually produced; the canal of the large differs widely within comparatively short areas where sacculations greatly increase its transverse measurements.

The structure of the two portions of the intestinal canal is not such as would be expected were the mechanism of the one a mere continuation of that of the other; they are separated by a distinct valve which seems to emphasise their different functions. These functions are themselves very distinct, for whilst the small intestine performs a great part in the digestion and absorption of food and can only very secondarily be regarded as a sanitary apparatus the large intestine completely reverses this, and whilst absorption from it is but small, must be looked upon chiefly, if not entirely, as the drainage system *par excellence* of the body. The small intestine with the stomach is the kitchen which pours its refuse into the slopstone and drain of the cæcum and colon.

Dr. Leftwich points out the remarkable similarity of the large intestine taken as a whole to a syphon. "A syphon," he says, "consists of a reservoir, a short ascending tube, and a long descending one. So does the large intestine. The reservoir is the cæcum, the short ascending tube eight inches long is the ascending colon, whilst the long descending tube consists of the descending colon eight and a half inches long, and the rectum about seven and a half inches, the total length being, therefore, about double that of the short tube and likely to act as a very efficient syphon. The sigmoid flexure has been left out of the account as its curves probably neutralise each other." But it is curious to notice that this acts like the S shaped trap in modern drains. In fact, the whole apparatus might have stood for the model upon which modern sanitary engineers arrange their sanitary appliances. From these and other arguments which he brings forward in an extremely well-reasoned paper which will well repay perusal Dr. Leftwich concludes that the contents of the large intestine are carried forward mainly by syphonage, although peristaltic action is also present to a subsidiary extent, and he justly adds that the light thus thrown upon a great natural process cannot fail to suggest many ideas for improved treatment; for example, in the treatment of fæcal accumulation by enemata the hips should be raised to prevent syphonage and too rapid regurgitation. The patient should remain quiescent for 20 minutes and then resume the erect position somewhat suddenly; in the treatment of diarrhœa the same elevation of the hips will tend to retard the too frequent emptying of the bowel, and so on.

Most morbid conditions affecting the large intestine are mainly chronic in character and extend in their whole course over long intervals of time, although many of them signalise their presence only when pathological changes have reached a certain stage, after which their further progress may be much more rapid; and it is especially in this class of cases that the earlier symptoms to which I have already referred are so much to be desired. It is evident that here is a large gap in our knowledge which succeeding observers will probably be able to fill with immense benefit to those under their care and to the profession. In the majority of instances at present attention is first directed to them either by difficulties in evacuation, constipation, or by too frequent action—diarrhœa. To these fundamental symptoms may be added some peculiarity in the stools themselves—the passage with them or at other times of blood, mucus, or pus, the existence of pain, or the presence of some abdominal swelling. Later, especially in those cases characterised by constipation, distension of the abdomen may be produced and this may be local or general. This symptom is, however, always a late one and in any case which may require surgical interference it should, if possible, be anticipated as its presence greatly and needlessly increases the risk and signalises changes in the intestinal wall which militate strongly against a successful result. It is, of course, scarcely necessary to point out how immensely it hampers any thorough examination, especially bimanual examination.

Given a condition of difficult and painful defecation the attention should first be directed to the anus and rectum. Hæmorrhoids may be discovered and if these are large, and especially if they are inflamed and tender, one is apt to be satisfied with their presence as a sufficient explanation. That this is not safe, even if the patient is comparatively young, is of course perfectly well understood but is very clearly emphasised by the following case. In June, 1901, I was asked to see a woman, aged 31 years, by a Manchester surgeon. For three or four years she had complained of pain in the anal region. 12 months earlier she suffered from influenza and for the first time noticed some loss of blood which had gone on ever since. She had always been constipated but this had become worse during the last 18 months. When this gentleman examined her he found several piles and removed them but the symptoms continued and increased. On complete recto-bimanual examination a circular nodular hard mass was found in the upper rectum which had caused a certain amount of invagination. Colotomy was performed and later the growth was excised by Weir's method. It proved to be, as expected, a cylindroma of the rectal wall. The patient died three days after the last operation.

Some obscure cases of pain in the rectum require very careful examination before the cause can be discovered. In October of this year my friend Mr. Harburn of Buxton sent to me a young married woman who complained of an intense burning pain after defecation some distance up the rectum. There was no fissure, no sentinel pile, and digital examination at first discovered nothing abnormal. The history given was that during her only confinement the bowels were moved with some pain and that ever since this suffering had been more or less present. At last a point was felt just at the upper edge of the internal sphincter on the right side which was extremely tender to touch. The description given by Bryant of ulcer of Morgagni's valve supplied the explanation. Evidently some portion of hard fæces had been forced past the child's head during the confinement which would be made to scrape the posterior wall of the gut. This, catching one of Morgagni's valves, had torn it slightly, sufficiently to expose a nerve end. Free dilatation of the sphincter showed the presence of a small ulcer which was cauterised by the electric cautery, with the results that all pain ceased and did not return.

A complete rectal exploration is therefore necessary in all cases before we can arrive at an accurate diagnosis. And opinions greatly differ as to what a complete rectal diagnosis

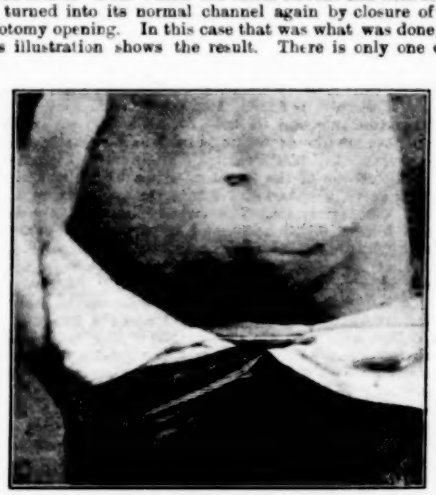
[13] THE LANCET, July 13th 1901, p. 72.
[14] Edinburgh Medical Journal, 1902, New Series, vol. xii., p. 536.

means. Most surgeons, however, of the present day would hardly consider it complete until the possibilities of touch and sight have been exhausted. It is astonishing how much may be learnt by touch alone if both hands are employed. Recto bimanual examination will enable the examiner to make out very accurately the position and contents of all the organs in the pelvis, not only in the woman but in the male, and I have more than once diagnosed a carcinoma of the sigmoid flexure by this means which was so easily depressed into the pelvis from above that simple palpation of the abdomen utterly failed to detect it. Other conditions outside the bowel, such as enlarged prostate, impacted ureteral calculus, and most of the female pelvic disorders, which are so many that it is impossible even to touch them now, may be detected in this way, the latter often much more clearly than by the vagino bimanual method.

The work of Martin, Gant,[15] and of Hirschman[16] has demonstrated the importance of the rectal—Houston's—valves in producing when enlarged and thickened a train of symptoms which form a variety of constipation only to be cured definitely by their division or partial removal. Hirschman details these symptoms as follows: "Inability to defecate properly or comfortably. The patient is constantly straining at stool and passes nothing but small, hard, apparently broken-off pieces or a long ribbon-shaped stool, accompanied or not with mucus. The condition has lasted a long time. Cathartics have lost their effect. Defecation does not give him relief; the rectum may feel hot and is constantly overloaded and stuffed. Defecation is infrequent, the patient going from two days to a week without a stool." In such a case digital examination may not recognise the condition, although these valves will usually be felt to be more rigid than usual. The greatest amount of information will be gained by the use of a fair-sized proctoscope, of course after an enema has cleared the parts, when the valves will be easily seen and their enlarged and rigid condition recognised. Should such rigid valves be present purgation and enemata are alike useless for the purpose of overcoming the habitual constipation produced by them. The only remedy is their division or removal to some extent. In these cases Gant has advised the use of small clamps which are applied through the proctoscope by a special holder. These clamps produce necrosis of the parts within their grip and drop off when this has been followed by separation of the sphacelated parts. Hirschman cuts off a portion of the thickened valve and unites the divided mucous membrane edges by sutures. I confess that I do not like to leave foreign bodies, either clamps or sutures, in a septic cavity such as the rectum if it can be avoided; it is impossible to be certain how far the necrosis produced by a clamp will extend. It is equally impossible to be certain that the sutures introduced may not act as setons, being impregnated with the rectal discharges. In these cases I have divided the valve by the electric cautery knife. This has the advantage that it leaves no foreign body behind; that the cauterised edges are protected by an aseptic slough, which permits no access of decomposing material until a granulating surface is produced in which are no open lymphatic orifices; and that cauterisation produces a sequent contraction in the remaining tissue which assists in widening the lumen since the contraction is in a direction away from this. It has in my hands been followed by the best possible results. And in this connexion much might be said of the advantage in all such cases of thorough dilatation of the sphincter. Almost all cases of proctitis and, indeed, of any intra-rectal irritation are associated with spasmodic contraction of this little muscle. This in its turn by preventing perfect evacuation tends to perpetuate the trouble and it is often astonishing how much may be done towards relief and cure of many troublesome cases in which there may be but slight organic mischief to be detected by the thorough dilatation of the anal sphincter. This, however, must be dilatation, gentle and gradual, not divulsion.

Passing higher up the bowel it is only possible to advert very briefly to growths in the sigmoid flexure. This is a very favourite site for cylindroma, the form of carcinoma most often met with in the large intestine. Not all obstructive growths, however, are malignant, at least in their early stages. Here, for instance, is a pure adenoma which produced an intussusception of the sigmoid flexure and was removed by Maunsell's operation. In March, 1900, Mr. J. Wilde Smith of Manchester requested me to see with him a man, aged 43 years, who had noticed pain over the hypogastrium seven years previously after lifting some heavy pieces of cotton. Since that time he had passed blood and mucus from time to time with tenesmus. Both these symptoms were increasing and latterly had been so frequent that they were occurring ten or 12 times in the 24 hours. On examination an intussusception of the upper part of the rectum could be felt high up, its lower extremity being covered by a soft growth which bled slightly and broke down easily under the finger. Colotomy was first performed and a fortnight later, after thorough disinfection of the lower segment, the abdomen was opened in the middle line; the mass was easily found and removed by Maunsell's operation, the abdomen being closed without drainage. Three months later the permeability and sound healing of the lower segment being evident, the colotomy wound was closed. Mr. Smith writes on Nov. 20 h, 1903 (more than three years after): "Although this man is leading a very reckless life, he is in very good health and has never had any symptoms of recurring obstruction."

A great difference of opinion exists as to whether it is advisable to perform a preliminary colotomy in such cases. To my mind there appears to be an immense advantage in having the area of operation and the line of union produced by suture of the large intestine free from fæces until such union is firm—after which the fæcal current can with safety be turned into its normal channel again by closure of the colotomy opening. In this case that was what was done and this illustration shows the result. There is only one difficulty. The two skin wounds are not far from one another and from one, the artificial anus, is more or less constantly issuing infective material. How is this to be prevented from contaminating the other wound? The fæcal fluid, if there is any diarrhœa, will soak into dressings and thus render them septic, often very soon after they have been applied. I have found that this can be thoroughly prevented by building a semi-circular rubber dam with gutta percha tissue moistened with chloroform in such a way as to interpose a damp-proof barrier between the two. The chloroform moistened guttapercha adheres firmly to the skin and no fæces can pass it. It is also an advantage to seal the second wound, that through which the growth has been removed, by celloidin, which also offers an impermeable barrier to infection from without.



Appearance of abdominal wall ten months after operation.

The treatment of muco-colitis, in its many forms with and without ulceration, which may be specific, gonorrhœal, simple, lupoid, herpetic, dysenteric, or cancerous, has been greatly assisted by the clearer ideas which have been gained of the actual condition of the interior of the gut since the more thorough use of the proctoscope and sigmoidoscope; the newer silver salts, especially protargol and argyrol, have supplied us with agents which are not rendered ineffective by the rapid formation of an inert albuminate as was the case with the older nitrate, but permit of far deeper and further reaching action upon the tissues and the micro-organisms

[15] Boston Medical and Surgical Journal, April, 1903, p. 473.
[16] Medical Record, May, 1903, p. 767.

which have penetrated them. So large a field of new observations and new methods of treatment is present here that it would have been easy to take up all the time this evening by going over it alone. This was impossible but I must mention one. At last some use has been found for the appendix, that abortive organ which has been so much denounced as an entirely superfluous viscus. In certain cases of mucous or membranous colitis which relapse after all treatment apparently because local applications fail to reach the cæcum, the cæcum itself has been opened, an artificial anus has been made, and the large gut has been washed out from end to end. Weir[17] has proposed that instead of making a new opening into the cæcum the appendix should be found, brought through the abdominal wall, and fixed there. Its end being cut off, its lumen is utilised as the channel for injections. Of course care must be taken that this little tube is not ulcerated and that it is permeable. When once the tissues have returned to their normal state this can either be removed in the usual way or, which seems preferable, its minute opening can be closed, itself remaining ready for use again should the condition relapse. Weir, and following him Meyer,[18] have reported cases in which this method has answered admirably and it certainly appears to be a valuable addition to our operative resources in combating these at present often most unsatisfactory cases. In the one case in which I have used it the proceeding was perfectly easy to carry out and was most successful.

As was evident from the first, a large number of chronic abdominal surgical conditions have been necessarily excluded from consideration. To mention no others, there is a large field for description and discussion in growths peculiar to women, but sufficient has been said, perhaps, to emphasise the proposition with which I started—viz., the necessity for constant observation of chronic cases with a view to the discovery if possible of new symptoms which will throw light upon their earlier stages and which may act as danger-signals, so that effective surgical interference may be carried out whilst there is every reason to expect a successful issue and before dangerous complications have arisen, or at least before they have reached such a stage as to render all our efforts ineffectual.

It only remains for me to thank you for the patience with which you have listened to what, I am well aware, has been but a feeble and ineffectual attempt to place this question before you.

PHYSIOLOGICAL OR FUNCTIONAL ALBUMINURIA.[1]

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THE problem of physiological albuminuria from its clinical side presents itself thus. A patient has albumin in the urine without any sign of organic disease, what is its significance and importance? The difficulty here lies, as it does so often in medicine, in applying general rules to the individual case. The cases of albuminuria fall into two groups according as the cause lies in the kidney itself or not. Where the kidney is not itself the organ at fault the cause may be found in the heart or in abnormal conditions of the circulation, in blood changes or other general conditions, and in each case alike the cause may be obvious or not obvious. In a third group of cases the urine is normal when secreted, the albumin being added to it as it passes from the kidney to the exterior. The following table makes the classification plain:—

Cis- or pre-renal	Cause obvious—e.g., morbus cordis, fevers, &c.	
	Cause not obvious.	Physiological or functional.
Renal	No obvious renal disease.	
	Obvious renal disease.	

Citra- or post-renal—accidental, from urinary or genital passages, &c.

Physiological albuminuria might, therefore, be described, as this table suggests, as albuminuria in which the cause is not obvious. This makes plain the indefinite character of this group of cases and the difficulties which attend the diagnosis.

The first thing to be done clinically in a case in which albumin is found in the urine is to exclude all accidental contamination—i.e., to make sure that the albumin is not added to the urine after secretion on its way from the kidney. In women such contamination is common from the vagina and uterus but it can easily be eliminated by obtaining a clear catheter specimen. There remain, however, in man and woman alike other accidental sources which are not so easy to exclude—e.g., discharges from the urethra, the prostate, the bladder, the ureters, and the pelvis of the kidney. The presence, for instance, of a small calculus in the pelvis of the kidney may lead by its irritation to the occurrence of albumin, as it does of blood, without other symptoms of its presence. This is especially true of an oxalic acid calculus and even of oxalic acid crystals too. An extreme instance of this kind is the copious albuminuria attending an acute attack of gout, when for the first day or two the urine may be loaded with albumin which disappears as rapidly as it came when the attack subsides. Some of these accidental causes are by no means easy to eliminate. Supposing this to have been correctly done the next step is to exclude all cases where there are obvious lesions in the kidney or morbid conditions elsewhere in the body sufficient to explain the albuminuria—e.g., morbus cordis, fevers, certain conditions of the blood, &c. This is generally not a difficult matter.

There then remains a group in which no cause can be found to which the albuminuria can be referred. The patient, therefore, is assumed to be healthy and the albuminuria is called physiological or functional. What physiological or functional albuminuria then means is that every care has been taken to find a cause but without success. It does not, however, follow that because a cause has not been found no cause exists and that the albuminuria is but an accident of health. Physiological albuminuria, therefore, is a diagnosis based partly on fact and partly on opinion. The fact is certain. The opinion may be open to question and its value depends upon the care which has been bestowed upon the investigation of the case. It is a pity, therefore, to use a term which seems to beg the very question which has to be proved. The term "functional" seems to me even more objectionable than "physiological" as being still more indefinite and vague.

Other terms have been suggested such as intermittent, cyclical, postural, and dietetic, but they are all open to objection. I think it would be best to discard the term physiological or functional altogether and to speak of the condition as *albuminuria in the apparently healthy*. This shows where the difficulty lies, for it is often impossible to be certain that the patient is in fact healthy.

Whether it be called physiological or functional the first inquiry which the name suggests is this: Does albuminuria occur under normal or physiological conditions? It is stated that albumin may be demonstrated in the urine of everyone in some such way as the following. Urine, in which the ordinary tests have failed to show albumin, is concentrated and the residue is dissolved and carefully tested. Then a trace, very minute it may be but still sufficient, may be demonstrated by delicate tests. The explanation of this seems obvious. There is a constant shedding of epithelium throughout the urinary passages. If this epithelium be concentrated, collected, and dissolved it will, of course, give the reaction for albumin. After all this question is of academic interest rather than of clinical importance, for no one suggests that albuminuria is ever physiological in the sense that albumin may be demonstrable by the ordinary means in the unconcentrated urine of any and every one.

Statistics showing the frequency of albuminuria in the apparently healthy differ widely. Thus examinations made in the ordinary routine of out-patient practice yield a percentage of 1, 2, or 3 as the case may be. More careful examinations made *ad hoc* raise the percentage several points, it may be to 10. Again, frequent examinations at different times of the day may show albuminuria present at one time and not at another. In this way by careful examinations frequently made and with varied delicate tests the percentage may be considerably raised.

For the purpose of the Lettsomian lectures in 1899 I had a long series of observations made by the late Dr. Levison which yielded one of the highest percentages obtained—viz., 42. The analyses of these results are very instructive. First, it may be noted that of healthy persons nearly 60

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[17] Medical Record, August 9th, 1902 p. 201.
[18] Medical News, vol. i., 1903, p. 1205.
[1] A paper introducing the discussion at the Medical Society of London on Dec. 14th, 1903.

per cent. show not the slightest trace of albumin with any test at all. Of the 40 per cent., in nearly one-half the form of albumin was not serum albumin but nucleo-albumin, and that only in very minute trace. Of the 20 per cent. in which the albumin was serum albumin, in about one half the trace was so minute that it would have been overlooked in ordinary examination. Thus we arrive at 10 per cent. in which the albumin would have been discovered by the ordinary methods of testing—a percentage which is not far removed from that of ordinary experience. Finally, even in this residue of 10 per cent. the amount was in most cases extremely small. The frequency of albuminuria varies considerably at different ages. Of healthy infants 10 per cent., it is said, present albuminuria and among the somewhat older patients of a children's hospital it has been shown in about 20 per cent. The most abundant statistics are for the period of school life among boys—and after that for young adults—when the percentage may reach as high as 20 or so. Albuminuria stands at its lowest level about the age of 25 years and from that period continues to rise regularly and rapidly with the age.

Functional albuminuria is very often intermittent and varying in amount. It has sometimes been called cyclical but the regularity of its recurrence depends upon the regular recurrence of the cause—such as changes of posture from the recumbent to the erect position, as on getting up in the morning, exercise, diet, digestion, bathing, exposure to cold, &c. In most healthy persons, however, none of these conditions is competent to excite albuminuria. There must therefore be some other cause or peculiarity which determines it and careful clinical investigation will in many cases succeed in finding one. It is, of course dangerous to make a diagnosis of disease upon a single physical sign. But the converse is also true and it is equally dangerous to assume that because no other abnormal sign can be discovered the one physical sign present can be disregarded and the individual pronounced healthy.

I now turn to some of the more special difficulties which arise in practice.

1. *The fact that albuminuria is intermittent, occasional, or cyclical is no proof that the kidneys are sound.* In a case which is convalescent from acute Bright's disease and presents no albuminuria while confined to bed, the albuminuria may return on getting up or be brought back by very slight causes, such as changes in diet, exposure to cold, &c. In fact, all the peculiarities of functional albuminuria may be reproduced. Here it must be agreed that the kidneys, though getting well, are not yet sound. Indeed, as convalescence proceeds the causes referred to fail to produce albuminuria and the recovery is regarded as complete. Of course, in most of these cases the albuminuria is associated with the presence of casts and cells, but, as stated, a few cells may be found in the urine of everyone and the real significance of a few hyaline casts is not yet agreed upon. Then, again, in granular kidney the albuminuria may be intermittent and may be absent for long periods of time and the urine contain few, if any, casts or cells.

2. Again, though in functional albuminuria the amount of albumin is tiny or but a small trace, this may be so in granular kidney; while in convalescence from acute nephritis, where convalescence is not complete, a small amount of albuminuria may persist without other symptoms for years. Even in functional albuminuria the amount is not always small. There are cases described, though they are rare, in which the amount was as much as one half or more.

3. Again, the clinical importance to be attached to the albuminuria varies greatly with the age of the individual. In newly born babies and infants albuminuria without obvious cause is by no means uncommon. The same holds good to some extent of older children. It is common experience that little children are easily upset by improper or impure food which, besides causing intestinal disturbance, rashes such as urticaria or erythema and even fever, may lead to transient albuminuria. In fact in young children all the functions are in a condition of instability. The organs and tissues are not seasoned and resistant; their condition is easily disturbed by slight causes which in older children and in the adult would produce little, if any, effect. On the other hand, the processes of growth and development are active and recovery is rapid and complete in children where in the adult it would be prolonged and often incomplete. Hence the experience in children cannot be applied without considerable qualification to more advanced periods of life.

4. It is between the ages of 15 and 25 years—that is to say, in boys at school and young adolescents—that functional albuminuria has been most frequently described. The statistics at these age periods are abundant and they prove that albuminuria is very common in apparently healthy young people. This is the time of rapid sexual development and naturally the albuminuria has been referred to this cause. The two facts are coincident but there is no reason whatever to believe that they are related. The same is true of masturbation; in this case, at any rate, what evidence is forthcoming is strongly opposed to such an explanation.

The boys at school who present what is called functional albuminuria fall into two groups: the one florid, full-blooded, vigorous lads with good or high pulse tension, the other pale, flabby, not well conditioned, and with low arterial tension. The two groups probably present differences in the pathology and prognosis and demand different treatment and management. The significance of these cases can only be determined by watching their subsequent history. Some, the majority, get quite well soon. In some the albuminuria persists for a time but ultimately disappears, in others it is persistent, while in the residue signs of organic kidney mischief ultimately reveal themselves.

Speaking generally functional albuminuria in boys raises serious questions, for though many seem perfectly well and others get quite well still the fact that others do not get well and the difficulty of deciding to which category any individual case belongs introduce factors of uncertainty in forecasting its future. The practical question which is certain to be raised in these cases is this: "Shall the school life of the boy be interfered with?"—a question of very great gravity to the boy and his parents and of great anxiety and responsibility to the medical attendant. Unless there are special reasons in the particular case—and each case of the kind has to be settled not upon general principles but upon its own merits—careful consideration and the balancing of all the *pros* and *cons* generally end in leaving the boy at school under the careful and constant supervision of his medical attendant. The risk has to be run by the boy and fortunately in most cases the risk proves to be slight and the result is satisfactory.

5. In the young adult, up to the age of 25 years or thereabouts, the questions are the same but of still greater importance, as the answer given may involve the loss of an appointment or of the power to effect a life insurance, upon which much may depend. At this age period—i.e., between 20 and 25 years—the frequency of albuminuria stands at its lowest. After the age of 25 or 30 years the frequency of albuminuria rises as age advances and its significance becomes more serious. Its gravity is also more easy to demonstrate, for statistics bearing directly on the question are available from insurance offices. In my Lettsomian lectures I referred to some experience on this point and I may be excused if I reproduce some of the figures I then quoted to prove the increased risk there is in these cases and the necessity of protecting the life offices against them. From the data stated a calculation was made for me by an actuary to show approximately the difference in mortality compared with healthy males.

Ages attained.	Rate of following year.		Ages attained.	Rate of following year.	
	Rate from figures given.	Rate for healthy males.		Rate from figures given.	Rate for healthy males.
30	—	—	50½	3·70	1·97
32	1·53	1·06	52½	2·64	2·20
34	3·27	1·11	54½	3·74	2·43
36	3·33	1·16	56½	7·13	2·69

The numbers are, of course, too small to lay any stress upon the actual percentages, but the figures show in a general way how largely the presence of albuminuria raises the mortality as well in those below 40 years of age as in those above. This introduces the question which runs through all the age periods alike but becomes most pressing after the age of 30 years—viz., the existence of latent kidney disease, in other words, the relation of these cases to granular kidney. That this relation must be fairly close, closer than is generally thought, is demonstrated by the diagram which shows the curve of granular kidney and that of albuminuria to be of the same character.

In granular kidney it is known that the albumin in the urine may vary greatly in amount; that it is often a mere trace; that it may be absent altogether, even for long periods; that it may not be associated with casts or renal cells; and that in its occasional and varying character it may present all the features attributed to functional albuminuria. Further, granular kidney is a very insidious

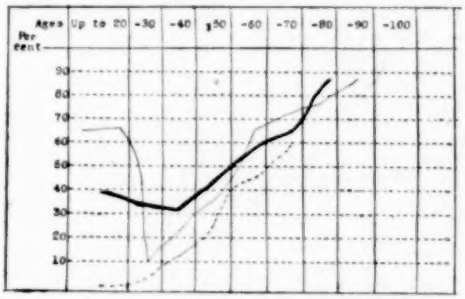

Diagram constructed from collated statistics given by Stirling (light line) and Levison (thick line). The dotted line shows the frequency of granular kidneys in proportion to healthy kidneys. It is drawn in accordance with Mahomed's figures.

disease which may lie latent or be undiscovered for years. It is a disease of long duration and, though the period of greatest mortality is in middle life, it must, running the chronic course it does, have existed for many years previously. In other words, the beginning of granular kidney has to be looked for in quite early life. Thus many cases of advanced or fatal granular kidney occur under the age of 30 years, some are met with under 20 years, and a few even in children. Granular kidney has been even described in infants, but as it is not in accord with our general pathological experiences to believe that advanced fibroid degeneration of any organ can develop in a few weeks these cases in infants probably have a different pathogeny and may be attributed to some intra-uterine or congenital defect of development. Interesting as these cases undoubtedly are they do not affect the general point at present under consideration—viz., the fact that the commencement of the pathological process which leads ultimately to granular kidney must be referred to early life, even to the period of adolescence or puberty, the very age at which functional albuminuria is most frequently described.

If then there is no age at which granular kidney may not be present or be developing, it is evident that some of the cases of so-called physiological or functional albuminuria may be early cases of granular kidney in which the other signs of that disease are not yet developed, or in which that disease has been either not sought for or even overlooked. It is therefore important that in all cases of functional albuminuria careful search should be made for the signs of granular kidney. Of these signs, besides albuminuria, the most important is *arterial thickening* (*arterial sclerosis*). Of arterial thickening there are two well-known forms—atheroma in advanced life and that associated with granular kidney in middle and early life. Besides these two there is no other widespread or general arterial sclerosis recognised. Arterial thickening is not uncommon in young people and it can hardly be due to atheroma. There is, however, in my opinion, one other form of arterial thickening which is met with in the young and lusty. This is probably a physiological hypertrophy. It is seen in athletes and is, I believe, due to a hypertrophy of the muscular coat of the larger arteries similar to that which occurs in the heart. I have seen not a few cases in which this seemed to be the only admissible interpretation. With this exception, however, so far as I know, arterial thickening in the young must always be looked upon with suspicion. Thickened arteries may suggest granular kidney when albumin is absent and albuminuria may be due to granular kidney when the arteries are not especially thick, but the association of the two conditions is very serious.

Thickened arteries are not sufficiently and systematically looked for in the young. If they were they would be more frequently found. In many of the statistics of physiological albuminuria no reference whatever is made to the condition of the arteries and this omission certainly goes some way to vitiate the importance of the figures given. If these considerations be now applied to life insurance we must conclude that albuminuria even in the apparently healthy—i.e., the so-called functional albuminuria—introduces an appreciably increased risk to the life and that this risk increases rapidly with age. The rules which have been laid down are sound and fully justified—viz., to reject all such lives above the age of 40 years, to load them heavily between 30 and 40 years, to make some addition to every case under 30 years, and to wait awhile and to watch the cases in adolescence and youth. To which general rules may be added the still more important one to reject at once at every age those cases in which the albuminuria is associated with arterial thickening.

The conclusion of the whole matter may be summed up thus:—

1. Albuminuria may occur as a transitory symptom in persons who, except for this symptom, may be judged to be perfectly healthy, for they appear to be so at the time and remain so.

2. But it may also occur in persons who though they appear at the time to be healthy develop signs of disease subsequently.

3. It is difficult to distinguish at a given time between those who will remain well and those who will not.

4. It is difficult to exclude for certain many of the pathological causes to which the albumin might be due. In other words, though there may be no proof that these causes are present there is equally no proof that they are absent and in some cases the result shows that they were not absent.

5. Speaking generally, the larger the amount of albumin in the urine and the longer it persists the greater the probability of some permanent disease.

6. Continued observation of these cases shows that the so-called physiological albuminuria does very appreciably increase the risk of life and that this risk grows rapidly with every year of age after 30 years.

As the result of the foregoing proposition we are led to the general conclusion that functional albuminuria is never, strictly speaking, physiological at all, but that it is, on the contrary, always pathological though not necessarily renal.

Wimpole-street, W.

THE TERMINATION OF A CASE OF RECURRENT MAMMARY CANCER TREATED BY OÖPHORECTOMY.

BY G. ERNEST HERMAN, M.B., F.R.C.P. LOND., F.R.C.S. ENG.,
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IN THE LANCET of June 11th, 1898, p. 1612, I published a report of a case of recurrent mammary cancer treated by oöphorectomy. The cancer was noticed and removed in October, 1890. At the end of 1896 it had recurred and had invaded the axilla and neck so extensively that removal of the recurrent growths was impossible. In March, 1897, the ovaries were removed. By September of that year none of the recurrent growth could be felt. The patient remained in good health until the autumn of 1901. During the greater part of September, October, and November she had evening pyrexia and perspirations, the cause of which was not found out although repeated careful examinations were made. In January, 1902, she again had evening pyrexia. In February she had an attack of pain in the region of the left kidney so severe as to need the injection of morphia. In March she began to suffer from epigastric pain after taking food. In October Dr. G. C. Tayler of Trowbridge, her medical attendant, discovered an oval, elastic, painless swelling in the line of the sagittal suture, near its anterior end, measuring about one inch by three-quarters of an inch. This increased slowly in size during the rest of her life. The epigastric pain continued and in January, 1903, she began to have dorsal pain. In March attacks of vomiting commenced and her feet became œdematous. There was then no albumin in the urine. Later fluid was felt in the abdomen. In May a little blood was twice present in the urine. Her breathing became so difficult that she could not lie down.

On June 1st she had retention of urine and Dr. Tayler was unable to pass a catheter because of her inability to lie down. The patient died on June 3rd. No necropsy was made but I think there can be little doubt that she died from recurrent cancerous growths in internal organs.

The result of oöphorectomy in this case was that it gave the patient four and a half years of good health. The cases in which up to 1900 oöphorectomy has been performed for inoperable recurrent mammary cancer have been brought together by Mr. Stanley Boyd. The broad result which they show is that in about one-third of the cases the patient obtained "more or less marked benefit," this benefit consisting of retrogression of the cancer and a period of a few months or years of good health. This is too much to be accounted for by chance.

A distinguished surgeon has said that he has "not the courage nor the faith" to propose this operation for inoperable mammary cancer. What he is afraid of I cannot imagine. The objections that I can understand being urged against oöphorectomy are three. First, the immediate risk to life. This in competent hands is very small; but even were it larger than it is the life of a patient with incurable cancer is not very valuable to herself. Second, the temporary suffering caused by the operation. Every abdominal section is followed by two or three uncomfortable days. This is not much in comparison with the possibility of benefit. Third, the effect of removal of the ovaries on certain functions. This in a patient certain to die soon from cancer is not worth considering. Against these drawbacks we can tell the patient that there is one chance in three that the disease will retrogress and that she will have some months, perhaps some years of good health. I agree with Mr. Boyd that in cases of inoperable mammary cancer oöphorectomy ought to be offered to the patient. The drawbacks and the possibility of benefit should be put before her and she should be allowed to choose. And I think that if she asks the surgeon to help her to decide he should advise her to have it done.

Harley-street, W.

THE PREPUTIAL OR ODORIFEROUS GLANDS OF MAN.

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AND
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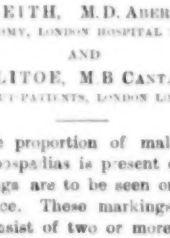
IN a considerable proportion of males in whom some slight degree of hypospadias is present certain curious and symmetrical markings are to be seen on each dorso-lateral aspect of the prepuce. These markings, which are represented in Fig. 1, consist of two or more crescentic reddish

FIG. 1.



Dorsal aspect of a penis in a case of hypospadias, showing the ocelli on the prepuce.

lines which meet above at a dorsal angle or fornix and below towards the frænum of the prepuce at a ventral fornix. They may be styled from their shape and appearance "preputial ocelli." In the oval area between the reddish lines are elevated folds on which may be seen minute openings and frequently the short stumps of hairs. An occasion arose which gave us an opportunity of examining microscopical sections through one of these preputial ocelli. We found it studded with large, wide-mouthed sebaceous glands. A reference to literature gave us no clue as to their nature; all text-books agree in stating that the skin of the distal two-thirds is destitute both of hairs and sebaceous glands. From the regularity of their form and the frequency of their occurrence in conjunction with hypospadias (they were well marked in the last nine cases of hypospadias with hooded prepuce examined at the Lock Hospital) we had no doubt that these markings were neither accidental nor pathological but were probably remnants of some structure or organ of which we were ignorant.

The first real clue as to the nature of these preputial ocelli was obtained from the examination of the foreskins of rodents. On the prepuce of developing rats and mice,[1] long before that structure has risen into a fold to cover the glans, a circular area of epithelium grows downwards into the subcutaneous tissue of the penis and in the course of development forms a compound sebaceous gland quite as large as a sultana raisin. When the foreskin rises into a fold the duct of the preputial gland opens just inside the free margin of the foreskin. Its secretion gives rise to a peculiar odour. This gland in mice and rats is evidently formed by the submergence of an area of sebaceous glands. In the pig a preputial gland is formed in the same manner. In the rabbit there is a series of sebaceous glands round the margin of the vulval orifice, but one of them in a recess behind the fold that represents the prepuce is especially large and secretes a substance with a characteristic odour. In the cat and in most members of that tribe the sebaceous gland which secretes the sexual odoriferous substance is derived from the circumanal and not from the circumvulval series, and lies inside the margin of the anus. A more extended research showed that throughout the mammalia, and to this law man is no exception, there is a fringe of specialised sebaceous glands surrounding the anal and urogenital apertures, which are functionally odoriferous glands and are connected with the sexual system. With castration, be these glands round the anus or round the urogenital openings, they cease to secrete their characteristic substances.

At first our search for the preputial glands in primates, animals much more nearly allied to man than those above cited, was disappointing; an examination of human embryos at all stages of development was also, at first, without result, because we did not know where or what to look for. The first real evidence we found of them was in certain South American apes and it was not in the males, but in the prepuce of the clitoris of the females that we came across the same markings and structures as we found in the prepuces of hypospadiac man. The skin of the penis in apes and anthropoids is covered with hair and ordinary sebaceous glands. We ought to have recognised that the correlation of the ocelli with hypospadias indicated that the condition was to be sought for in the female—for hypospadias is undoubtedly a partial inheritance of a female condition.

On turning to the condition on the prepuce of the female these ocelli, sometimes poorly marked, but frequently very distinct, were always to be seen (Fig. 2). On the lateral aspect of the prepuce, in the neighbourhood of the frænum preputii, an area of large sebaceous glands was constantly found on microscopical examination, although to the naked eye they may appear to be absent. They do not occur on the dorsal aspect of the prepuce or on the skin along the dorsal aspect of the clitoris. Dr. Robert Keith found them to occur on both aspects of the labia minora, an especial group being situated at each side of the clitoris in the depression between the prepuce and the labium majus. They vary greatly in development in different women. The inner aspect of the labia majora is studded with them. In a series of cases kindly inspected for us by Mr. Charles Gibbs at the Lock Hospital the following conditions were observed.

CASE 1.—The patient was a quadroon, married, aged 28 years. There was a well-marked preputial fold but no evidence of glands.

CASE 2.—The patient was single, aged 20 years. The prepuce and anterior extremities of the nymphæ were united into a ridge. There was no evidence of glands.

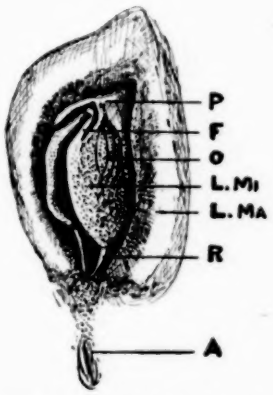
CASE 3.—The patient was married, and aged 38 years. The prepuce was well marked, the clitoris being small. The

[1] Mr. C. B. Lockwood very kindly placed his splendid embryological collection at my disposal.—A. K.

upper part of the vestibule beneath the clitoris showed two small blind holes in the mid-line, which represented the lacuna magna. There was no evidence of sebaceous glands.

CASE 4.—The patient was aged 22 years, single. There was a rudimentary clitoris. The prepuce and crura were represented by a slight elevation on each side, with a depression in the centre. There was no evidence of sebaceous glands.

FIG. 2.



Vulva of a human fœtus in the seventh month. The area is faintly stippled in which sebaceous glands are found. P, Prepuce. F, Frænum. O Ocellus. L.MI, Labium minus. L.MA, Labium majus. R, Retinaculum. A, Anus.

CASE 5.—The patient was aged 23 years, married. There was a large clitoris; the crura and prepuce were well marked; no evidence of sebaceous glands was present.

CASE 6.—The patient was aged 24 years, married. The clitoris was well marked, the crura passing down into the nymphæ. There were a slight ridge under the pink mucous membrane and a hooded well-marked prepuce. Under the lens the appearance was like a ridge of sebaceous glands.

CASE 7.—There were two distinct rows of glands, six in the external, four in the internal row in the angle between the prepuce and the labium majus; all the genitalia were more greasy-looking than usual.

CASE 8.—The patient was single, aged 22 years. In the angle between the prepuce and the labium majus were four well-marked glands on the left, not so obvious on the right.

CASE 9.—The patient was married, aged 24 years. The nymphæ were covered with sebaceous glands which extended to the prepuce. On the left side was a row similar to that in Cases 7 and 8. The whole genitalia were very greasy.

CASE 10.—There was no evidence of sebaceous glands.

CASE 11.—The patient was a German, married. The sebaceous glands in the angles between the labium majus and the prepuce were continuous with those of the nymphæ.

CASE 12.—The patient was a half caste negress, single, aged 29 years. She had a well-marked prepuce and clitoris. There was a large number of sebaceous glands on the nymphæ, extending to the edge of the prepuce; none were present on the prepuce.

CASE 13.—The patient was a blonde. There was no pigmentation about the vulva. No sebaceous glands could be seen. In brunettes they are better marked.

CASE 14.—The clitoris, prepuce, crura, and anterior extremity of nymphæ were united into a curved ridge. There were one or two depressions in the vestibule like the orifices of glands.

CASE 15.—There was a pale pink mucous membrane. No sebaceous glands could be seen.

CASE 16.—The same conditions were present as in Case 15.

CASE 17.—The patient was single. Sebaceous glands were present in the angle between the labium majus and the prepuce but none on the prepuce. The genitalia were very greasy.

CASE 18.—The patient was married. There were sebaceous glands extending up to the clitoris.

CASE 19.—The patient was married. The prepuce was well marked; there were no sebaceous glands.

CASE 20.—The patient was single and aged 21 years. The sebaceous glands were well marked in the angle between the labium majus and the prepuce, also on the prepuce.

CASE 21.—The patient was single. There were well-marked sebaceous glands from the hair of the mons Veneris to the prepuce. These were huge and arranged in parallel rows. She had an atrophied uterus and her breasts were wasted. One ovary was removed five years ago.

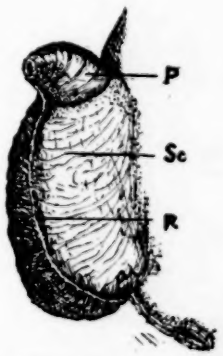
CASE 22.—There were a large prepuce and clitoris, with smegma. No sebaceous glands were to be seen on the prepuce.

CASE 23.—The patient was single and aged 22 years. There was a well-marked bunch of sebaceous glands extending to the prepuce.

In the male department out of 504 cases examined during the months of July and September, 47 cases, or 1 in 10·7, were found to have abnormally placed meatus. 13 of these showed two or more openings through which the urine was passed. Since the end of May we have seen nine cases as depicted in Fig. 1. One of the nine showed two well-marked ridges extending from the ventral fornices, downwards, to be lost behind the misplaced meatus urinarius.

With this knowledge of the distribution of the sebaceous glands in the female to guide us we found that there was constantly present in the skin of the penis a series of glands beginning in the ventro-lateral aspect of the prepuce (see Fig. 3) and stretching backwards along the ventral aspect

FIG. 3.



Side view of the penis and scrotum of a child at full time. The area is faintly stippled in which sebaceous glands are found. P, Penis. SC, Scrotum. R, Raphé.

on each side of the raphé and ending in the ordinary sebaceous glands at the root of the penis and base of the scrotum. This gave us a clue to certain vexed points concerning the homology of the labia minora in the male. In the male these folds grow together on the ventral (perineal) aspect of the penis: the series of sebaceous glands on the ventral aspect represents the glands of the labia minora in the female. The retinacula of the labia minora, shown in Fig. 2, are the only parts which directly assist in forming the floor of the male urethra. Thus the conclusion we were led to concerning the nature of the preputial ocelli, found in cases of hypospadias, is that they are, like the condition of hypospadias itself, inherited from the female. In the same manner the male inherits the nipple and breasts and the rudiments of a vagina and uterus, and further, that the circumvulval or odoriferous glands of man are similar in nature to the corresponding glands of mammals, but in him they are developed in the female and only represented as rudiments in the male.

In the course of this research we failed to find any trace of Tyson's glands which have been described in every text-book of anatomy published since Tyson's time. To quote from the last edition of Quain's Anatomy: "Numerous sebaceous glands are collected round the cervix of the penis and corona glandis; they are named the glands of Tyson or glandulæ odoriferæ, their secretion having a peculiar odour." It shows the strength of the faith of anatomists that they have for

nearly two centuries described glands which have not, and never had, an existence. Further, there is no written evidence that Tyson ever described or observed such.

On turning to a paper by Professor Tandler and Dr. Paul Döményi[2] we found that a number of leading continental investigators had denied their existence from time to time during the last 20 years; they, however, had failed to find sebaceous glands in the prepuce as well as in the corona of the glans or the neck of the penis. They describe, however, a number of cysts in the neighbourhood of the frænum preputii.

Whence, then, comes the smegma which is found beneath the prepuce? It certainly is not secreted by glands. Before discussing its origin it is necessary to turn to the development and nature of the prepuce. Rather more than two years ago Dr. D. Berry Hart published in the *Journal of Anatomy and Physiology* an excellent paper dealing with the morphology of the human urino-genital tract. In that paper he set forth quite a new view of the development of the prepuce. Up to the time he published his paper everyone regarded the epithelium which joins the prepuce to the glans penis as having been buried there by the growth of the prepuce forwards over the glans. He, on the other hand, regarded the epithelium as a solid ingrowth, which starting from the neighbourhood of the meatus urinarius, shelled off, as it were, a layer of skin to form the prepuce. One of us accepted that view and gave it prominence in a text-book on embryology. But on investigating the matter we found that the old account is the correct one—namely, that the prepuce is formed as a fold that rises up and grows forward like a hood over the glans. As the prepuce grows forward three changes occur: (1) a new epithelium is formed on its deep surface, the lining cells arising from the epithelium covering the neck of the penis; (2) deep ingrowths of epithelium take place during the last month of fœtal life into the free margin of the prepuce which is thus thrown into folds (if this process is arrested phimosis is the result); and (3) that in the lateral aspects of the penis ridges of epithelium grow into the prepuce and give rise to folds. In cases of hypospadias in the male, and as a normal process in the female, these ingrowths are few in number and limited in extent. It is these ingrowths which give rise to the red lines seen in the preputial ocelli. The epithelium which covers the neck of the penis and lines the prepuce is of a peculiar nature. It is clearly allied in structure and nature to the epithelium which forms the sebaceous glands. When the cells desquamate they are transformed not as are the cells of the skin into a corneous substance but into a substance closely allied to sebum—smegma.

The skin of the penis of man is peculiar in being destitute of hairs. In that man differs from every other primate. This we believe is due to the fact that the skin on the dorsum of the human penis is, comparatively speaking, an insertion or new growth that separates the prepuce from the skin over the symphysis pubis. The origin of the dorsal skin of the penis characterised by the absence of hairs and sebaceous glands may be related to the posture in which connexion is effected in man.

CARCINOMA OF THE DUODENUM; RESECTION; RECOVERY.

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CARCINOMA of the duodenum is rare; according to Ewald out of 1148 cases of carcinoma of the intestine only 19 were in the duodenum. "If a malignant tumour is found obstructing the duodenum, resection is practically impossible."[3] The following case in which a constricting carcinoma of the duodenum was successfully removed is therefore of interest.

A man consulted me on April 3rd, 1903, complaining of "indigestion." He stated that his age was 40 years and his occupation that of a farmer; he was married and had four healthy living children; his wife was healthy and had had no miscarriages. He was perfectly well up to two years previously when he was suddenly attacked with a violent pain which he located to a point a little to the right of the mid-line of the abdomen just above the navel. He also vomited several times. The attack lasted for some hours and gradually passed off. Ever since he had felt a sense of discomfort after taking food. About 12 months previously he had had another attack of vomiting after drinking whisky, and on several other occasions the same thing happened, so he gave up whisky. Some six months previously he found that he vomited some hours after eating, his food being rejected partially digested no matter what its nature. He also felt pain and discomfort after food which were relieved when he vomited. These attacks of vomiting gradually increased in frequency until they occurred daily. He had no actual pain, had a craving for food, and had tried all kinds of food with the same result. The vomit had never contained blood or bile. His weight 12 months previously was 10 stones 8 pounds; now it was 9 stones 9 pounds. He was distinctly emaciated; no tumour could be felt in the abdomen and the stomach was dilated, with distinct splashing. The heart and lungs were normal. The urine was acid, of specific gravity 1018, and contained neither albumin nor sugar. The knee jerks and other reflexes were normal. The diagnosis made was pyloric obstruction probably due to malignant growth and operation was advised. The patient was most indignant at what he regarded as a "cold-blooded proposal" and declined to have anything done in spite of careful explanations.

On August 3rd he sent for me to see him. I found him in bed, extremely emaciated, and so weak that he could hardly stand. He had been trying all kinds of quacks and latterly had been under the care of a practitioner who had finally advised operation. I was still unable to detect any tumour. On August 5th he was anæsthetised with chloroform by Mr. A. N. McArthur. Assisted by Dr. D. M. Morton I opened the upper abdomen in the middle line. The stomach was dilated but otherwise appeared to be free from disease. Further examination revealed a hard thickening of the third portion of the duodenum, with infiltration of the adjacent glands; above the thickened portion the bowel was dilated. It was decided to remove the growth. Sterile gauze, wet with hot sterile saline solution, was packed round; clamps were applied above and below the growth, and then rubber-covered Kocher's clamps on healthy bowel farther away. The intestine was divided between the clamps and removed with the affected gland *en masse*. Bleeding vessels were caught in compression forceps as they were cut and subsequently ligatured with silk. The cut edges were cleaned with dry sterile gauze and then approximated. A continuous silk suture was passed through all the coats, uniting the edges, some little difficulty being experienced owing to the difference of calibre. The line of union was then invaginated with another continuous silk suture—seromuscular where the bowel had a peritoneal coat and muscular only where there was no peritoneum on the posterior surfaces. The abdominal incision was united with interrupted silkworm-gut sutures, including skin, aponeurosis, and peritoneum. A high enema of one pint of saline solution and one ounce of brandy was given on the table.

The patient rallied well and had no vomiting. He was fed with saline and nutrient enemata alternately for the first 36 hours. Thereafter sterilised water, brandy and water, plasmon, peptonised broth, and milk were given by the mouth in amounts of half an ounce every two hours. The amounts were gradually increased and given at longer intervals. Alternate sutures were removed on the twelfth day and all the sutures on the sixteenth day, when the wound seemed to be firmly healed. On the twenty-first day, however, the scar yielded and some omentum protruded at the lower part. The wound was re-sutured and eventually healed firmly. The patient gradually gained strength, resumed his ordinary diet, and returned to his home in the country. On Oct. 30th he came to town and saw me. The scar was quite firm with no sign of hernia, he could eat ordinary diet with no discomfort, and his weight was 10 stones 2 pounds.

The following report was received from the pathological department of the University of Melbourne. "The specimen consists of a portion of duodenum about three and a half inches long. At its centre it is constricted and thickened and above this the bowel is dilated and shows signs of chronic irritation; below the intestine is normal. The strictured portion is one and a quarter inches long and its wall is three-eighths of an inch thick. It is of firm consistence and there is practically no ragged ulceration in the

[2] Wiener Klinische Wochenschrift, 1898, p. 555.
[3] Operative Surgery of Malignant Disease, Butlin, second edition, p. 268.

lumen. The peritoneum is thickened over the growth and an enlarged gland is adherent to the peritoneal surface which is much wrinkled and looks as if numerous adhesions had been torn through. Microscopically the central thickened part is invaded with columnar carcinoma down to the circular muscular layer. On each side the carcinomatous infiltration extends, gradually diminishing as it is traced up and down until the muscularis mucosæ becomes intact. The carcinomatous tissue occurs in large masses with an attempt at alveolar formation. The central part of the stricture has no epithelium on the surface, which is formed of a band of fibrous tissue (with epithelial cells just below). The nuclei of the connective-tissue cells in this part are elongated, indicating long-standing disease. The epithelial cells are of a low cubical type and do not stain well. The vessels are not numerous and are fairly thick-walled, especially the inner coat. The most noticeable point in the section is the great development of connective tissue, causing the firmness of the stricture and probably indicating relative chronicity."

Melbourne.

ON THE QUESTION OF TRYPANOSOMA INFECTION IN MAN.[1]

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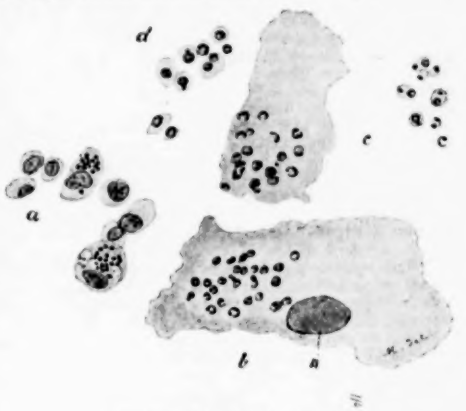
THE articles of Leishman,[2] Donovan,[3] and Ross[4] prompt us to make the following communication. At a meeting of the Medical Society of Leipsic on Feb. 3rd, 1903, there were exhibited by one of us (Professor Marchand) microscopical preparations of the spleen, the liver, and the marrow from a peculiar case of splenomegaly accompanied by anæmia which was discussed in relation to the so-called Banti's disease.[5] The case occurred in a man, aged 23 years, who had previously been quite strong and had taken part in the Chinese campaign. During the course of the war, however, and for eight months after its close he had enjoyed good health. About the end of January, 1902, he was taken ill in Leipsic, his complaint being loss of appetite and weakness. Towards the end of February attacks of headache and sweating began to intervene, occurring in a regular fashion every morning and afternoon. These symptoms were succeeded about the end of April by hoarseness and cough, for which he sought treatment in the clinic for diseases of the throat. Under suspicion of malaria the patient on June 7th was transferred to the Internal Medicine Clinic of Geheimrath. Professor Curschmann (St. Jacob's Hospital). Here the presence of an already extreme enlargement of the spleen was verified (its length being 23·5 centimetres). Repeated examinations of the blood with a view to the discovery of malarial parasites were always followed by a negative result. In the meantime the patient suffered continually from fever which was partly of a remittent and partly of an intermittent character but conformed to no regular type. Further, severe anæmia and diarrhœa set in. In the beginning of August tubercle bacilli were found in the sputum, a phthisical process in the left lung gradually developed, cystitis intervened and death followed on Dec. 12th.

At the post-mortem examination, which was performed in the Pathological Institute, there were revealed advanced disintegration of the left lung, dysenteric and tuberculous ulcers in the large intestine, cystitis, pyelonephritis, and *an extreme enlargement of the spleen (length, 28 centimetres; breadth, 15 centimetres; weight, 1750 grammes)*. The latter was somewhat soft and of a dark greyish-red colour, changing in parts to a lighter hue. The liver showed a reddish-brown colour and slight enlargement and the bone marrow was red. Film preparations from the spleen were unfortunately not made and the examination of the blood from the cadaver showed, apart from the anæmia no important changes.

All the more surprising therefore was the result of the microscopical examination of sections of the spleen, the liver, and the marrow after fixation in Müller's fluid with 5 per cent. formol and hardening in alcohol. In the cells of the spleen pulp were found an extraordinary number of peculiar bodies of about 1μ to 1·5μ in diameter and which stained intensely with nuclear stains (hæmatoxylin, carbol-fuchsin, &c.) These bodies at first sight reminded one of micrococci but under the higher powers of the microscope presented themselves in the great majority of cases as distinctly ring-shaped. Some of the pulp cells showed rather advanced degeneration of their nuclei. The portal capillaries of the liver contained very numerous large cells of an amœba type which in many cases completely blocked the lumen of the vessel. These large cells possessed in their interior besides their nucleus proper a very large number of the same small bodies above described which frequently lay in larger clumps in vacuoles of the cell protoplasm. Very often, too, besides the small bodies the protoplasm of these large cells included leucocytes, sometimes not a few. The marrow likewise contained in addition to the usual marrow cells large numbers of the same huge amœba-like phagocytes which inclosed in their interior extraordinarily numerous small bodies of the same nature, as well as red blood corpuscles. It is to be noted, however, that the bodies were never found in the interior of the red blood corpuscles and that pigment formation was never associated with them. Under high magnification the bodies exhibited surprisingly regular forms; the majority were of a signet-ring shape with a clear centre; in a large number of them there lay beside this ring-shaped chromatin body a second and much more intensely stained (especially with carbol-fuchsin) dot of rounded or slightly elongated contour and which sat directly on the larger body or was separated therefrom by a small space. Generally this smaller body was situated with its long axis perpendicular to the surface of the larger or sometimes also tangential to it. Many of these bodies, and not only those lying in the cell vacuoles but also those which are to be found not infrequently lying free amongst the cells, were surrounded by a very fine faintly stained roundish or somewhat elongated halo of from 2μ to 3μ in diameter. (*Vide* diagram, copy of a drawing shown to the Leipsic Medical Society.)



Explanation of diagram.—*a*, Several marrow cells (magnified 460 times). Some of the large cells contain the small ring-shaped bodies and one of them also contains vacuoles. *b* and *c*, Two large phagocytes from the marrow containing numerous bodies which show in part signs of rather severe degeneration (only a portion of the same is shown in the diagram). *d*, Several isolated bodies from the marrow with their inclosing halos. *e*, Similar ones from the spleen (from *b* to *e* magnified 1250 times). These bodies gave us the impression of being something entirely unfamiliar to us; we could not remember having seen anything like them before. The idea that they might have something to do with malarial plasmodia proved quite unentertainable, when in support of it one had to consider the history of the case as well as the course of the fever, although

[1] Translation of an article appearing simultaneously in the Centralblatt für Bakteriologie und Parasitenkunde.
[2] Brit. Med. Jour., May 30th, 1903, p. 1253.
[3] Ibid., July 11th, 1903, p. 79.
[4] Ibid., Nov. 14th, 1903, p. 1261.
[5] Münchener medicinische Wochenschrift, No. xi., March 17th, 1903.

certain doubts still remained as to whether some unknown form of malarial parasite, or, failing that, some quite strange protozoon, might possibly be present.

For lack of some fixed starting point Professor Marchand in the above-cited address on Banti's Disease believed it incumbent upon him to give it as his opinion that the bodies represented the product of degenerated cell nuclei. For this view the appearance of the cells of the spleen pulp seemed specially to speak as in certain situations their nuclei presented a disintegration to all possible forms of granules and shreds of chromatin substance which exhibited apparently all transition stages to the ring-shaped bodies lying amongst them. Still, the discovery was characterised by Professor Marchand as a yet unsolved riddle. The condition of the marrow and liver where no signs of nuclear degeneration were present served always to cast doubt upon the view that the bodies might represent nuclear products; the oft-repeated and thorough examination of the bodies served to make their parasitic and protozoic nature still more certain. At the conference of the Deutscher Naturforscher und Aerzte in Cassel Professor Marchand demonstrated the bodies to the German Pathological Society on Sept. 25th, 1903, but none of those present could decide as to the nature of the bodies. So also Professor Korschelt and Professor Brauer in Marburg and Professor Chun in Leipsic, who were good enough to make a personal examination of the preparations, were unable to give a decided opinion. These gentlemen also had no doubt as to the parasitic nature of the bodies.

Unfortunately the cited communications in the *British Medical Journal* did not come to our knowledge till the end of November. The identity of the bodies found by Leishman in film preparations of the much enlarged spleen of a soldier who succumbed to a peculiar form of tropical fever in the cantonment of Dum Dum near Calcutta, with those discovered by Donovan of Madras in April, 1903, in film preparations of the spleen (three times post mortem and once after splenic puncture during life, later repeated) can no longer permit of doubt after Leishman's exact description. Demonstration of the bodies in sections seems generally to have met with failure, while in our case their demonstration presented no difficulties. Leishman is of opinion that the bodies found by him in the spleen pulp are degeneration forms of that species of trypanosomata which were first discovered in man not long previously by Dutton[6] in the case of a woman who had been infected in the Gambia region. He believes himself, therefore, forced to admit that trypanosoma disease occurs also in India, while this conclusion is still doubted by Donovan from the fact that no trypanosomata were found in the peripheral blood of the case examined by him during life. Leishman explains the appearance of the bodies in the following way. The trypanosomata lose their undulating membrane and the flagellum and only the shrunken macronucleus with the micronucleus remains behind. As a matter of fact, he was able to convince himself of the successive changes in this process after death in rats infected with Trypanosoma Brucei. Ross, as a result of his examination of Donovan's preparations, finds certain difficulties in accepting Leishman's view because, according to him, in the case in which remains of trypanosomata were concerned, at least isolated flagella must still have been present. Leishman[7] replies to Ross's objections on good grounds apparently. The reddish-stained rings round the chromatin body which were found in the preparations which Donovan made during life, and which gave support to the conclusion that these chromatin bodies were situated inside red blood corpuscles, might very well represent cysts or capsules. Still, up to the present Leishman considers it impossible to decide whether the small bodies are new parasites or really altered trypanosomes. Laveran,[8] who also had occasion to examine Donovan's preparations, believes that we have here to do with a new hæmatozoon which has no relation either to malaria or to trypanosoma and is to be referred to the genus piroplasma. He proposes the name piroplasma Donovani, but all the same gives the priority of the discovery to Leishman. (N.B.—The bodies were first described by Professor Marchand. We do not, however, lay great stress on this fact as Leishman has the honour of having recognised their relationship to trypanosoma.) Laveran found the parasites lying partly free and partly inclosed in red blood corpuscles. They were pear-shaped or oval, from 2·5 μ to 3 μ long and 1·5 μ broad, with a larger karyosome and a smaller accessory one which at times was joined on to the first by means of a short pedicle. The infected blood corpuscles, however, no longer stain like normal ones but are, as it were, washed out. These pale rings are surely identical with those above described in our case but which we could not recognise as being remains of red blood corpuscles but as constituent parts of the parasites themselves. Now, while we lay great value on the judgment of so great an authority on protozoa as Laveran we should not like to omit to mention in this connexion that Laveran and Mesnil themselves in their work on Trypanosoma Lewisi," Plate XI., Figs. 10 and 15, describe changes in these parasites as a result of phagocytic inclusion by leucocytes which at least are very like those described by us. The slight difference in size (in Fig 10) may well be due to an earlier stage in the change or to a difference in species. If then, as we consider probable, our case had also to do with a trypanosoma infection, we have certainly to admit that the infection took place during the patient's sojourn in China. On the strength of the correctness of the patient's history such a long latent period is certainly very extraordinary. On the other hand, the possibility of a like infection also in our neighbourhood (Leipsic) would not altogether be excluded, although in the present case which occurred in winter it would be more than improbable. The case will be described in greater detail later.

The following additional facts relating to this important case have been ascertained quite recently by Professor Marchand. He says: "The stepfather of the deceased made in response to my inquiry the following important statements (which were in no way influenced by me) His son had been a soldier at Peking and had lain for a considerable period before the great walls. During the course of a long march he had received a fly bite on the foot, as a result of which his leg swelled enormously so that he could not draw on his boots and lay for about eight days in the lazaret. Of the further course of the illness nothing is known by his parents. On his return to Germany the deceased made a short stay of about three months as night watchman in the barracks in the vicinity of Leipsic, and though his disposition is said to have shown a change to a peevish morose type he was not considered to be really ill.'

[6] Brit. Med. Jour., Sept. 20th, 1902.
[7] Ibid., Nov. 21st, 1903.
[8] Bulletin de l'Academie de Médecine, No. 35, 1903, p. 278.

A CASE OF LOBAR PNEUMONIA IN WHICH THE PHYSICAL SIGNS PERSISTED FOR EIGHT WEEKS ACCOMPANIED BY A VERY IRREGULAR TEMPERATURE.

BY J. M. BENNION, M.A., M.B., B.C. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.,
LATE HOUSE PHYSICIAN TO THE METROPOLITAN HOSPITAL.

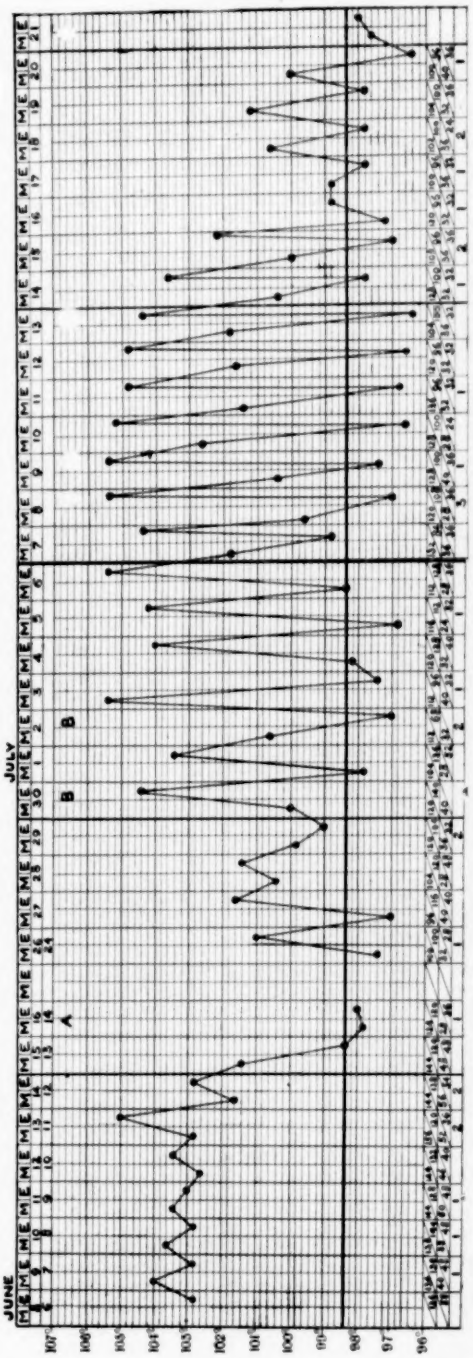
A WOMAN, aged 32 years, was admitted into the Metropolitan Hospital on June 8th, 1903. She was taken ill on June 3rd with a "shivering fit," severe headache, and pain in the right side. On the 4th she was feverish and was suffering from sharp pain in the side and cough. From this date until admission the temperature was high, up to 104° F. off and on. No phlegm was brought up. Her previous history was to the effect that she had ovariotomy performed 12 years previously and that she had suffered from pleurisy on the left side three months previously. Her parents were dead; one sister suffered from phthisis.

On June 8th she complained of great pain in the right side. She looked ill but was not cyanosed. Her temperature was 102 8° and her pulse-rate was 120. Her respirations were 60 per minute and rapid and shallow. She coughed a good deal but brought up no phlegm. Her chest was of a good shape, moving rapidly, but the expansion of the right side was deficient. Her heart was natural. Examination of the lungs yielded the following results. On the left side the note was good; the breath sounds were vesicular and

[8] Annales de l'Institut Pasteur, 1901, vol. xv., p. 673.

clear. On the right side in front there was impaired movement; the note was good over the upper three intercostal spaces but below it was much impaired. A friction rub was felt and heard in the third, fourth, and fifth spaces. Many crepitations were heard also in these spaces. On the right side behind the note was good; the breath sounds were vesicular over the upper two-thirds of the chest, but below the note was impaired and the breath sounds were weak. On auscultating the larynx expiration was noted to be much louder and longer than inspiration. The abdomen showed a linear scar of laparotomy but was otherwise natural. The urine was of specific gravity 1025 and acid; it yielded a slight cloud of albumin; the chlorides were diminished. On the 10th the patient remained much about the same as above described. In the morning she coughed up a little viscid phlegm (not rusty). Her temperature was 104°; her pulse and respirations were respectively 126 and 48 per minute. In her right chest in front there was less friction; behind, the note was much impaired over the base up to the mid-scapular region; loud bronchial breathing, bronchophony, and many crepitations were heard. On the 12th her temperature was 102 6°; her pulse and respirations were respectively 144 and 48 per minute. Over the right upper lobe behind the note was impaired and some crepitations were heard. On the 15th the patient was a little better in the morning, although the signs of consolidation of the right lung persisted. At 6 P.M. she was perspiring freely. Her temperature was 98 4°; her pulse and respirations were respectively 120 and 48 per minute. On the 25th it was noted that the temperature had not risen above normal since the 15th. Both lungs were now apparently clear in front. Behind on the right side the signs of consolidation still persisted over the upper half of the chest but the lung was resolving below; the note was good; some moist sounds were heard. On the 27th the cough was very troublesome. It was noted that the temperature rose on the previous night to 101°. On the 29th the temperature was high. Some crepitations were heard over the third and fourth right intercostal spaces after coughing, otherwise the physical signs were as noted on the 25th. On the 30th, just before 6 P.M., the patient had a rigor lasting about half an hour. Her temperature rose rapidly to 104° and her pulse and respirations were respectively 144 and 60 per minute. Her cough became frequent and distressing. On July 1st her morning temperature was normal but the signs of consolidation of the right upper lobe remained. From the 2nd to the 12th inclusive three grains of quinine were given nightly, while for the next three nights five grains of antipyrin were given. On the 6th it was noted that since the 1st a very irregular temperature had been present. On the previous night she shivered a short time before the temperature rose to 104°. The Widal reaction was found to be negative. The leucocyte count was 9800 per cubic millimetre. The condition of the right lung remained the same. On the 13th it was noted that every night the temperature ran rapidly up to 104° and that the patient usually had a slight shivering fit. On the 27th it was noted that the temperature had not risen above normal since the 23rd. The patient was now up half the day and was much stronger. The following physical signs were still present over the right upper lobe behind—namely, impaired note, vocal vibrations increased, bronchial breathing and many crepitations. On August 7th she left the hospital for a convalescent home, the temperature having been normal from July 21st. Her health has remained good since.

The interest of this case, I think, lies in the rigors and the very irregular and high temperature which occurred ten days after the temperature had been normal, and also in the length of time taken by the right lung in resolving. The temperature chart and rigors suggested that the patient was suffering from septic absorption from a collection of pus somewhere. The chest was constantly examined for any signs of fluid. Empyema was, of course, thought of, but as no physical signs of fluid were found a needle was not put into either pleural cavity. A leucocyte count on July 6th and 14th proved to be about 10 000 per cubic millimetre. This fact was not in favour of a collection of pus being the cause of the rigors and high temperature. Empyema was therefore considered to be in all probability not the cause of the patient's condition. There was a family history of phthisis and acute tuberculo-pneumonic phthisis was thought to be the most likely diagnosis, and in consequence a very unfavourable prognosis was formed. As there was no sputum the diagnosis could not be confirmed. The Widal reaction was negative and typhoid fever was therefore excluded. The diagnosis of acute tuberculo-pneumonic phthisis evidently was wrong. The rigors and very erratic temperature from June 30th to July 16th were therefore probably due to



A, The temperature remained normal until June 26th. B, Rigor.

the absorption of toxins from the delayed resolution of the right lung. I have to thank Dr. Arthur T. Davies (under whose care the patient was in the hospital) for permission to publish the case.

Petersfield.

ATMOSPHERIC TEMPERATURE AND SMALL-POX.

BY DAVID SIVEWRIGHT, M.A., M.B., CH.B., D.P.H. ABERD.

IT is generally recognised, I think, that there is some connexion between the atmospheric temperature and the incidence of small-pox cases. During the epidemic in London in the winter 1901–02 I collected from the *Standard* a series of statistics from which I have made calculations bearing on the point. I have taken weekly averages of the maximum shade temperature and the minimum shade temperature, also similar averages of the admissions of cases to the hospitals of the Metropolitan Asylums Board. Allowing 12 days for incubation and an average of two days for the cases to be recognised and sent off I have compared the averages of temperature of one week with those of the admissions on the third week following. I find on putting these numbers on charts that a rise in the number of cases generally corresponds with a fall in temperature, and *vice versâ*. The correspondence of each rise in the number of cases with a fall in temperature is not absolute, at the same time I think it is sufficient to warrant the assumption that the relation is more than a casual one. I have also in the same way compared the maximum solar radiation in vacuo with the cases admitted and find that the correspondence is even more striking in this case. The accompanying charts illustrate the article.

CHART 1.

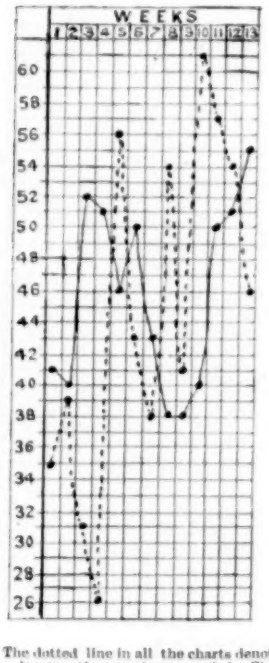


CHART 2.

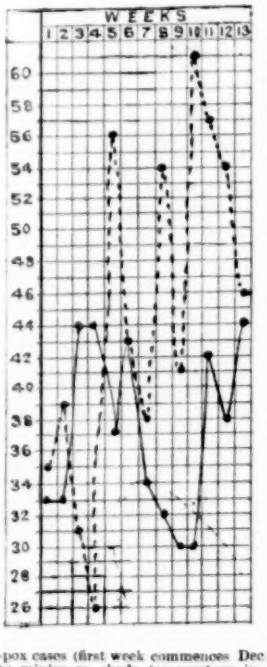
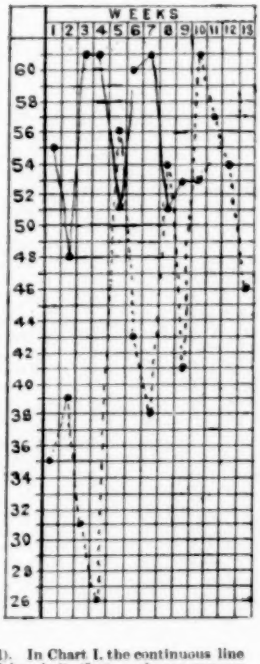


CHART 3.



The dotted line in all the charts denotes small-pox cases (first week commences Dec 28th, 1901). In Chart I. the continuous line denotes the maximum and in Chart II. the minimum shade temperature in degrees Fahrenheit (first week commences Dec. 14th, 1901). In Chart III. the continuous line denotes the maximum solar radiation in vacuo in degrees Fahrenheit (first week commences Dec. 14th, 1901). The temperature curve for the last three weeks is not given because it rose to 77°, extending beyond the limits of the chart.

Catford, S.E.

CASE OF RUPTURE OF THE LEFT AURICLE.

BY F. W. FOOTT, L.R.C.S., L.R.C.P. IREL.,

WITH A NOTE

BY F. DE HAVILLAND HALL, M.D., F.R.C.P. LOND.,

PHYSICIAN TO THE WESTMINSTER HOSPITAL.

I WAS called to a man, an Arab, aged about 40 years, a stoker on the P. and O. line of very fine muscular development. There was a history of his having been in a Bombay hospital two years previously for "something." On my arrival I found that he was dead, having fallen "all of a heap." Previously to the fall he had been playing a game of cards. The game over, he rose suddenly to see if his supper was being cooked, when he fell, as described, in the kitchen.

I suspected aneurysm and by the coroner's order made a post-mortem examination in the presence of two other qualified men and we found the following conditions present. The pericardium was full of blood (*none being outside the pericardium*), the left ventricle was hypertrophied, the auriculo-ventricular ring was stretched, the mitral valve was not nodular and was apparently healthy, the wall of the left auricle was exceedingly thin and stretched, and there was a small tear about half an inch in extent on the outer and posterior surface, the thinnest part. The muscular substance of the heart looked fatty—i.e., it was pale in colour and not firm. A microscopical examination was not made. The pulmonary and general venous systems were loaded with blood. The kidneys were very lobulated but otherwise normal.

The etiology appears to be as follows. The man was a

ship's stoker, a notoriously laborious occupation and one throwing great strain on the heart; this caused the hypertrophy and dilatation of the left ventricle, with the usual sequence of incompetence of the mitral valve and secondary dilatation of the left auricle from overfilling during ventricular systole. Possibly the site of rupture was a particularly weak spot where the backward stream of blood impinged on the auricular wall.

Remarks by Dr. DE HAVILLAND HALL.—The occurrence of rupture of the heart, and especially of the left auricle, is such a rare event that I induced my friend Mr. Foott to place on record this extremely interesting case. The statistics that have been collected on the subject show that in 77 per cent. of the cases of rupture of the heart (excluding cases of traumatism) the rent takes place in the left ventricle, in 14 per cent. in the right ventricle, in 6 per cent. in the right auricle, and in the remaining 3 per cent. in the left auricle. So that the case under consideration belongs to the rarest form of rupture of the heart. As is usually the case, the rupture occurred in a man, but at a much earlier period of life than is common. According to Walshe, "rupture of the heart is favoured by advanced age; it becomes comparatively frequent after the fiftieth, still more so after the sixtieth year." Out of 100 cases collected by Quain in 12 the rupture took place under the age of 50 years and two of these occurred between the ages of ten and 20 years, so that while rupture is very uncommon in early life the possibility of its occurrence should be borne in mind.

Though the authorities whom I have consulted do not appear to lay stress on a laborious occupation as a factor in the production of rupture I think that there is much cogency in the explanation given by Mr. Foott of the cause in his case. Unfortunately, a microscopical examination of the heart muscle was not made, but the naked-eye appearance was in favour of fatty degeneration. Gowers in his article on Fatty Diseases of the Heart in Reynolds's "System of Medicine" says emphatically: "Spontaneous rupture never occurs in a healthy heart," and it is "probable that in at least nine-tenths of the cases of rupture fatty degeneration is the condition of the cardiac wall to which the accident is due."

The mode of onset varies very much; sometimes the rupture is induced by physical exertion or great mental excitement. Of 24 cases collected by Barth, in five death occurred during the act of defecation. It may occur during sleep, as in a case of spontaneous rupture of the left auricle reported by Dr. M. Mackintosh.[1] In the classical case of George II., who died from rupture of the right ventricle, it is stated that he rose at his usual hour of six, drank his chocolate, inquired how the wind was, being anxious for the arrival of the mails, and then suddenly fell, uttered a groan and expired.

In Mr. Foott's case there was neither mental nor physical excitement to account for the rupture and there were no premonitory symptoms as sometimes happens. In Dr. Mackintosh's case, for instance, the man complained of pain in the epigastrium in the evening which he attributed to his having had a dinner of hard, badly-cooked beef. He died the same night in his sleep. As Dr. Mackintosh points out, the marked ecchymosis which was found in the neighbourhood of the rent in the left auricle suggests that some laceration took place during his work, causing the pain he complained of, and that the final rupture occurred during sleep, the result being instant death.

[1] THE LANCET, Feb. 1st, 1890, p. 239.

NOTES AND COMMENTS UPON FIVE CASES IN WHICH CHLOROFORM ANÆSTHESIA WAS CARRIED OUT BY DUBOIS'S APPARATUS.

BY P. M. CHAPMAN, M.D., F.R.C.P. LOND.,
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THE induction of anæsthesia by chloroform has fallen into much discredit, although its use is persisted in and ably advocated by some of us. Certain advantages connected with it lead perhaps most of us to regret that we are obliged to abandon its use. Although complete anæsthesia can be induced by ether in less than three minutes and the irritation and distress often caused by it can be avoided to a great extent by the previous administration of nitrous oxide gas, we seem still to be out of our path and away from perfection. All is vague and haphazard. With ether even young girls may become violent and inebriated and may require large quantities. The profuse frothy mucous secretion and salivation may often cause infinite trouble and some anxiety, and the occasional evil after-effects are known to all.

To the administrator, the anæsthetic employed has mainly to be considered in the two aspects of its chemical and physical properties. The one, however inseparable from the clinical aspect, should be first considered by the physiologist who should furnish us with some certain data for our guidance. The physical problem should never be lost sight of by the administrator himself and is to some extent his to consider. 1. The chemical problem involves a study of the effects of toxic vapours upon nerve. Of these effects we have gained in late years some definite knowledge through the labours of Dr. A. D. Waller. Briefly, nerve resumes its normal reactions after loss of function from exposure to 1·0 to 2·0 per cent. chloroform vapour. By a small excess beyond this nerve may be poisoned and with larger doses it will certainly be poisoned beyond recovery. 2. The physical properties of chloroform make it a grave source of danger. It is customary to use it by the "open method," a small but unmeasured quantity being poured upon lint which is held in the hand at some variable distance from the face. Owing to its high specific gravity the vapour falls in a downward stream, and the approximating of the hand to the face may rapidly raise the percentage inhaled to four or five times beyond the limit of safety. In labour, where chloroform is frequently used and with few accidents, the patient is usually lying on her side, and this permits the vapour to stream past the face, much of it being thus happily wasted. Moreover, the quantity used is but small. The senses are but dulled and complete anæsthesia is neither sought for nor desirable.

No apparatus giving a constant supply of a definite percentage of chloroform vapour is in ordinary use. The Junker inhaler is a notable endeavour in this direction, though it cannot be granted that it supplies a definite and accurate percentage nor that it allows perfect freedom of expiration. Dr. Waller having lately deeply interested me in the method of anæsthesia practised in the physiological laboratory at the University of London (whereby an accurate percentage of chloroform vapour is supplied in a constant stream, the expiration being unimpeded) I obtained the consent of my surgical colleagues on the staff of the Herefordshire General Hospital to use his apparatus on one of their operating days upon a small series of unselected cases occurring in the ordinary course of their work. The anæsthetic was administered by Dr. Waller himself while I closely watched the cases and took notes of their condition.

CASE 1. *Sacro-iliac disease; psoas abscess.*—The patient was a young adult. At 1.23 P.M. the administration was begun: 1·2 per cent. of chloroform. 1.24, increased to 2 per cent. 1.31½, diminished to 1·2 per cent. 1.33, abolition of the conjunctival reflex (ten minutes after commencement). 1.34, operation commenced. 1.37, slight vomiting and retching; administration discontinued for about half a minute. 1.37½, increased percentage to 2 per cent. 1.40, operation completed; administration discontinued. The patient first spoke nine minutes after leaving the theatre. She vomited at 4.25, at 6, and at 6.50 slightly. She had had ether on a former occasion and of the two rather preferred ether.

CASE 2. *Excision of hydrocele.*—The patient was a labourer. At 1.47 P.M. administration was begun; 2 per cent. chloroform was continued throughout. 1.52, stage of excitement and muscular resistance; the patient was talking loudly; pulse-rate 150. 1.55, excitement passing off; pulse-rate 80. 1.56½, complete anæsthesia (nine and a half minutes from commencement). 1.57, operation begun; slight movement at initial incision; still muttering incoherently. 1.59, silence; pulse-rate 108. 2.0, slight stertor; facepiece removed for one or two respirations. 2.2, rather increased stertor. 2.4, quite quiet and breathing easily; pulse-rate 108; respirations 44. 2.7, stitches being inserted, no sign of movement. 2.9, administration discontinued. 2.11, sleeping quietly; no conjunctival reflex; pulse-rate 92. 2.14, dressing completed: pulse-rate 128. 2.15, answered to name and responded not quite incoherently to questions.

CASE 3. *Operation for varicose veins.*—The patient was a

labourer. At 2.20 P.M. administration was begun: 2 per cent. chloroform. The pulse rate was 96. 2.23, stage of excitement. 2.26, conjunctival reflex abolished. 2.28, operation began; no movements. 2.38, operation over; administration discontinued. 2.40, conscious of questions; incoherent in reply.

CASE 4. *Operation for removal of cervical glands.*—The patient was a female adult. At 2.48 P.M. administration was begun; 2 per cent. chloroform. 2.54, conjunctival reflex abolished; complete anæsthesia. 2.56, operation began; no reaction to incisions from beginning, no struggling, and no stertor. 3.6, retching, slightly vomiting. 3.16, reduced to 1.2 per cent. chloroform. 3.21, stitches being inserted; no movement. 3.27, operation over; administration discontinued. 3.32, slight retching. The patient first spoke at 3.55. She vomited at 4.20 and at 5.30. She said that she thought (having had chloroform once before some ten years ago) that this time "it was longer in taking and not so strong," she "felt nothing," she "was more sick last time," and "liked this much better."

CASE 5. *Circumcision.*—The patient was a baby, aged three months (?). At 3.35 P.M. administration was begun; 2 per cent. chloroform. 3.38, reflexes abolished; slight movements on removing the prepuce. 3.40½, administration discontinued; all quiet.

Throughout the whole series I was greatly struck with what I must call the maintenance of the anæsthesia upon a smooth plane below the surface of consciousness. Though sunk to a depth beyond sense each case attained a certain level of rest not beyond our reach, neither occasionally rising therefrom nor sinking into any deep and perilous pool. The administration being discontinued each patient quickly rose again to the surface of consciousness. Throughout there was quite an extraordinary absence of anxiety, and I am clear that this feeling was produced through my observation of the patient's real condition under the anæsthetic and was not unduly owing to the fact that for the first time in my experience I knew with some approach to accuracy what was being done. Case 4 had some years previously taken chloroform for the same kind of operation. On this, the later, occasion she was completely under its influence to the full surgical degree for 33 minutes when the administration was discontinued. She could speak 27 minutes afterwards. The next day I asked her to compare her sensations on the two occasions. She said "it was longer in taking and was not so strong." On this last occasion she "felt nothing"; she was "more sick the other time," and "liked this much better." For myself I should without hesitation choose this means if I had again to undergo a surgical operation.

There are few practical difficulties. The use of the apparatus necessitates the turning of a handle attached to a small wheel at the rate of about four revolutions per minute. This can be done by the administrator almost mechanically. But it is better that he should have both hands free and the whole of his attention disengaged. The wheel can be turned by anybody, for it requires no skill and it can be done at a distance from the operating table. It could be worked by a motor or with a treadle by means of some suitable adjustment. By whatever means the stream of vapour is supplied to the facepiece the administration itself is of the utmost simplicity. There is free exit from the facepiece for all expired air and if the chloroform vapour, always of known strength, is supplied in greater abundance than is necessary, it merely passes harmlessly out of the orifices in the facepiece and is not pumped into the lungs. The patient has absolutely no sense of there being any obstruction to his breathing. He is simply inspiring air mixed with chloroform vapour to the extent of 2 per cent. or *under*, and this maximum quantity cannot be exceeded through any over-zeal on the part of the person, however untutored he may be, who is turning the handle. Excess of zeal means waste of vapour at 2 per cent., no greater percentage can possibly be inspired. The machine itself cannot supply a higher percentage without active interference on the part of the administrator.

I am not surprised to learn that animals can breathe such an atmosphere and remain completely unconscious for many hours at a time without ill-effects. I myself have exhibited it to a cat for several hours and have witnessed the animal half an hour afterwards lapping milk, purring happily, and rubbing itself affectionately against my legs. I am led to think of its possible use in the future in cases other than those of surgical operation. Some may think that the time occupied in inducing anæsthesia is too long. It is not, for adults, apparently less than six, nor more than ten, minutes. But rapid anæsthesia has been pushed to a point which has roused some protest. These protests might be ignored if the rapid induction of anæsthesia were wholly safe and pleasurable. Since it is not so, and since inhalation as now practised is nearly always very disagreeable and is often terrifying to patients, being a considerable addition to their already pitiable anxieties, I feel that we ought not to deny them this easy and pleasant means of relief. For to say the least we cannot plead that this method is less safe; nor do I see that we have any excuse for not admitting it into our daily hospital practice unless we are prepared to plead against it some small considerations which merely affect our own convenience. But all undue advocacy is to be avoided. The important matter in this connexion is our *clinical* experience of the method, and at this early stage of our experience it is essential that *every case* in which the method has been applied should be reported without selection, or omission of favourable or unfavourable features, or of actual failures if such should occur.

Hereford.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ERYTHROMELALGIA.

BY BRUCE C. KELLY, M.B., C.M. EDIN., M.R.C.S. ENG.

VARIOUS theories have been advanced to explain the group of symptoms known as erythromelalgia—e.g., the theories that it is due to a neurosis, to a peripheral nerve lesion, to a spinal lesion, to a cerebral lesion, and to a vascular lesion. The case about to be described, though incomplete because there was no necropsy, would seem to point to a spinal lesion, as do many other recorded cases. In favour of this disease being due to a spinal lesion are the facts that it coexists with tabes dorsalis, disseminated sclerosis, spinal tumours, general paralysis, and other conditions of a like kind. The secretory and vaso-motor troubles in, for example, syringomyelia have their seat in the grey matter of the cord in its middle part adjoining the anterior and posterior cornua. Cases have been described where the peripheral nerves have been found unaffected.

The following is the history of a case occurring in a married woman, 77 years of age, who had no record of neurotic troubles, who had advanced arterial degeneration, who had had three attacks of hemiparesis, and who had no symptoms or physical signs pointing to affection of the peripheral nerves. She began to suffer from erythromelalgia in October, 1901. She had a left-sided hemiparesis a year before. There was no exciting cause, remote or direct, in her history. The illness began with severe "pricking, shooting" pain in the outer part of the left foot, accompanied by redness and swelling of this part of the foot. The pain was paroxysmal and the intervals of freedom from pain became shorter and the paroxysms more severe. After a few weeks there appeared swollen, purplish-red patches on the inner part of the sole and on the heel. The superficial veins of the foot, on the dorsal and plantar aspects, and of the leg were markedly swollen. The surface temperature was raised but pulsation could not be felt. The pain soon extended up to the knee and the whole foot sweated continually. The pain was aggravated by hanging the foot, so that she could not bear to stand, and was temporarily relieved by cold. There were slight pain and dilatation of the veins of the right foot and leg up to the knee. The heart was dilated, with an apical systolic murmur, and there was advanced arterial degeneration. The urine was natural. The skin of the left foot and leg was tender to the touch. Sensibility to heat and cold was normal. Beyond wasting from disuse there was no atrophy of muscles or loss of power and the electrical irritability was normal, as were all the reflexes. There were no trophic changes in the skin or nails. There was no tenderness on pressure over the nerve trunks or

muscles. The pain became almost constant and she died, worn out, nine months from the commencement of her illness. Unfortunately, no post-mortem examination was permitted.

Erythromelalgia is an affection of the vaso-motor system, probably of the vaso-motor centres in the spinal cord—either an over-action of vaso-dilator or a paralysis of vaso-constrictor centres. Are there any means of localising the lesion more definitely? It has recently been shown by Laignel-Lavastine[1] that by destroying the sympathetic cord in the whole length of the thorax of dogs and keeping the animals alive for some months there were produced spinal lesions, especially evident in the cells of the base of the anterior cornu and in the lateral cornu. This writer thinks it probable that the efferent fibres of the sympathetic have for the most part their origin in the cells of the lateral cornua. In the *Revue de Médecine* for October, 1903, there is what appears to be clinical confirmation of this research in the publication by Lannois and Porot of a case of erythromelalgia, the spinal cord in which actually presented lesions of these parts. A widow, aged 55 years, showed vaso-motor phenomena of the fingers of the left hand immediately after the death of her husband. Five weeks later she had a monoplegia of the left arm (shown by necropsy to be due to cortical softening). The extremities of the fingers were swollen like drumsticks and the nails were thin and grooved. A few weeks later the hand became cold and she had patches of gangrene on the toes. Post mortem the left crossed pyramidal and the right direct pyramidal tracts were degenerated. There was atrophy of the left half of the grey matter of the cord, affecting especially the anterior cornu in the cervical and dorsal regions. There was much diminution of the prominence that the lateral cornu gives ordinarily to the outer border of the grey matter. In the dorsal region there was almost complete disappearance of the lateral cornu and its cells, there being only two or three atrophied cells present—i.e., atrophy of the intermedio-lateral tract; there was also atrophy, indeed almost complete disappearance, of the column of small fusiform cells that normally exists at the base of the posterior cornu. Clarke's columns were intact. In the cervical region there was atrophy of the cells representing the upward continuation of the intermedio-lateral tract—i.e., the antero-lateral group of cells of the anterior cornu. This atrophy of the intermedio-lateral tract was present throughout the upper dorsal cord and was out of all proportion more marked than the atrophy of the rest of the grey matter. The arteries of the cord were in a state of advanced degeneration. No lesions of peripheral nerves were found except some sheaths empty of myelin but containing intact axis cylinders. If these researches, experimental and clinical, are confirmed it will be possible to localise the vaso-motor lesions of erythromelalgia in the cells of the intermedio-lateral tract and in the small fusiform cells at the base of the posterior cornu. It is not necessary to point out the significance of the vascular degeneration in the cord in such cases.

Wells, Somerset.

[1] Recherches sur le Plexus Solaire, Thèse de Paris, 1903.

NOTE ON A CASE OF CHANCRE OF THE LIP AND ITS MODE OF INFECTION.

BY LEOPOLD G. HILL, M.R.C.S. ENG., L.R.C.P. LOND.,
MEDICAL OFFICER, CHURCH MISSION HOSPITAL, PAKHOI, SOUTH CHINA.

DURING the past year a couple of well-marked cases of chancre of the lip have come under my notice in the mission hospital here, one of which has such a clear history of its origin that it is worth recording.

A male Chinese, aged 24 years, came to the mission hospital, on March 17th with an ulcer almost in the centre of his upper lip; it was very painful and partly covered with a blood scab. He had had it for about a fortnight, but the day before it was more painful, so he sought relief. The ulcer was of the size of a split pea and had the so-called parchment hard feeling about it. It was not causing much swelling around but the lip was held stiffly. There were two enlarged submaxillary glands visible, that on the left being of the size of a small nut and that on the right, the larger, that of a filbert. It was undoubtedly a chancre. It is unnecessary to go into the after-history except to say that under mercury by the mouth and inunction the chancre and enlarged glands disappeared and that the patient regained his usual health as soon as the debilitating effects of the drug passed off and also that 11 weeks after the onset of the disease he had some suspicious symptoms of secondary syphilis—feverishness, pains in the bones, and slight sore throat—which soon cleared up and now he is in excellent health.

The point of interest is how he contracted the sore. His only child, some eight or nine months old, was being treated a month or so before and was then under treatment for congenital syphilis, consisting chiefly in a running at the nose, "snuffles," and emaciation—at that time beginning to improve and now a strong enough looking child. His wife—he married a widow—had had syphilis ten years ago, contracted, presumably, from her first husband; by him she had become pregnant twice and had had two miscarriages, carrying the fœtus nearer to term each time, but not a living child by him. The first child by the second husband was born dead at full term; the second, a puny child at birth, is the one referred to as having the nasal discharge. The father is extremely proud and fond of this child and I had often seen him nursing it in its sickness, kissing it and fondling it with his mouth on the child's face in spite of the moisture coming from the nose. No doubt some of this infected a scratch or open sore on the delicate lip and produced the chancre.

Pakhoi.

SYMPTOMS OF SUFFOCATION IN AN INFANT CAUSED BY A PIECE OF COAL LODGED IN THE TRACHEA; OPERATION; RECOVERY.[1]

BY WALKER DOWNIE, M.B., C.M., F.F.P.S. GLASG.,
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ON Nov. 11th, 1903, an infant boy, aged 15 months, was left to play in the kitchen while his mother did some work in the washhouse. When his mother returned she found him sitting on the floor near to the fireplace. He was crying and gasping for breath, with the fingers of both hands in his mouth. The mother concluded that the child had put some of the cinders which were lying on the hearth in his mouth and that possibly he had swallowed some. During the rest of the day the child was very fretful, had considerable difficulty in breathing, would take no food, and frequently cried as if suffering pain. Throughout the night and the following day there was a steady increase in the difficulty of breathing. When the medical man was called he found the child suffering from what he considered to be laryngeal obstruction, and without delay had the child sent from the country to the Western Infirmary as an urgent case. The child was admitted late in the evening of Nov. 12th and was seen by me about 10 P.M. He was then pale and exhausted and while suffering from severe dyspnœa had no hoarseness—his cry was perfectly clear. The pulse was 148 per minute, the respirations were 64 per minute, and the temperature (which was taken with difficulty on account of his struggles for breath) was 100·4° F. The marked indrawing of the intercostals and the epigastrium was an index to the serious nature of the obstructive difficulty present. By auscultation it was found that the amount of air entering the lungs was greatly deficient, that both sides were equally affected, and that the respiratory murmur, particularly towards the bases, was accompanied by mucous râles. The cause of the obstruction to the entrance of air was evidently in the trachea and probably was well down in that tube. An examination by the x rays gave no sign of the lodgment of a foreign body.

For the removal of the foreign body, the presence of which was indicated by the history and the symptoms, inversion was first tried but without benefit. The child was then placed under chloroform. The larynx was inspected with the laryngoscope and found to be normal, after which tracheotomy was performed. When the tracheal cartilages were split and the edges of the incision held apart a black object, lying transversely and firmly fixed within the trachea, was seen at the level of the fourth ring. This

[1] The case was shown and the notes were read at a meeting of the Glasgow Medico-Chirurgical Society on Nov. 20th, 1903.

was grasped with forceps and removed and it was found to be a piece of coal measuring half an inch long, by three-sixteenths of an inch broad, and one-eighth of an inch thick. A tube was inserted lest any fragments might have been broken off and retained. As soon as the piece of coal was removed the child breathed with freedom, the chest expanded fully, and the child was asleep shortly after. Later, he again became restless and his temperature at 4 A.M. was 101·8°, his respirations were 58, and his pulse was 144 per minute. At 8 A.M. on the 13th his temperature was 100·6°, his respirations were 46, his pulse was 136, and at 10 A.M. the tube was removed. From this time there was a gradual but steady improvement and on the 15th the evening temperature was 98·4°, the respirations were 28, and the pulse was 124. The child is now well and the wound healed.

Glasgow.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. THOMAS'S HOSPITAL.

SEVEN CASES OF INTESTINAL OBSTRUCTION.

(Under the care of Mr. G. H. MAKINS, C.B.)

THE following seven cases of intestinal obstruction seem worthy of brief record, since, besides possessing some surgical interest, no less than six of them, illustrating most of the more common causes of the condition, were met with during the course of a single major week at St. Thomas's Hospital. The first case which is added as affording an example of one other cause was admitted in the preceding major week.

CASE 1. *Cæcal volvulus*.—The patient was a woman, 67 years of age. During the last 18 months she had been the subject of four or five distinct attacks of abdominal pain accompanied by vomiting sufficiently severe to confine her to bed. Ten days prior to her admission to hospital she was seized with severe pain in the lower abdomen, most acute in the region of the umbilicus. Obstruction of the bowels had been complete for six days, vomiting had been frequent, and neither flatus nor fæces had been passed per rectum. On admission the woman looked anxious and ill; vomiting of dark feculent smelling fluid was frequent. Constipation was absolute. Her tongue was furred but not very dry. Her pulse-rate was 108 and her temperature was 97° F. Her abdomen was considerably distended; the prominence was median and on inspection gave the impression of a tumour rising from the pelvis. It was resonant throughout except in the right flank.

An operation having been decided upon, the abdomen was opened through the right rectus from just above the level of the umbilicus downwards. A hugely ballooned piece of bowel was at once disclosed occupying the whole field of operation. The incision was enlarged but the distended gut could not be delivered as it was tightly wedged into the pelvis. A trocar and cannula were therefore introduced and a large quantity of gas and liquid fæces was evacuated. The slackening of the tumour thus produced allowed of the hand being inserted into the pelvis beneath the sac and the piece of bowel was brought out. The intestine affected proved to be the cæcum and lower part of the ascending colon which was provided with an unusually long mesentery. The twist was through half a circle and involved the ascending colon about the centre of its length. The ileum remained viable. It was considered advisable completely to empty the loaded bowel which was then readily replaced, the two punctures having been securely sutured. The patient made an uneventful recovery, the bowels acted spontaneously the day after the operation, and the stitches were removed from the abdominal wound on the eighth day. On the fourteenth day a localised collection of pus was evacuated from the lower part of the wound in the abdominal wall and at the end of a month the patient left the hospital recovered.

CASE 2. *Carcinoma of the rectum*.—The patient was a man, aged 43 years, with a history of chronic constipation which had existed for years and for the last two months was much aggravated and accompanied by abdominal pain. There was no history of passage of blood or mucus. On examination the abdomen was found to be highly distended, visible peristalsis being marked. On introduction of the finger into the rectum a growth was discovered extending within three inches of the anus and firmly fixed. Inguinal colotomy was performed and three weeks later the patient was transferred as "relieved" to Lambeth Infirmary.

CASE 3. *Persistent Meckel's diverticulum*.—The patient was a man, aged 41 years, who had not had any intestinal trouble until seven years ago, but since then had suffered from attacks of abdominal pain once or twice each year. These attacks were sometimes accompanied by vomiting but never by any marked constipation or diarrhœa. They were of sufficient severity to oblige him to discontinue his work as a clerk for a few days. Three days before admission a similar attack of pain occurred; it was of a gnawing character, never very severe, but was continuous and seemed to spread across the abdomen just below the level of the umbilicus. Vomiting persisted throughout and at the time of admission the bowels had not acted for four days. The abdomen was moderately distended; the tongue was moist; the pulse was 75 per minute, regular, and of fair strength; and the temperature was 98° F.

A three-inch incision was made through the right rectus, starting just above the level of the umbilicus. Collapsed gut was at once discovered in the pelvis and when followed up led to a band stretching from the ileum to the umbilicus. This was at once recognised as a broad Meckel's diverticulum. The distal end was freed from the umbilical attachment and the strangulation was relieved. The constricted part of the bowel was in good condition. The diverticulum was removed and the abdomen was closed. The patient made an uneventful recovery and left the hospital on the seventeenth day well. The diverticulum was a broad one with a lumen at the distal end at least one inch in diameter. It may be mentioned as a matter of interest that the solitary follicles in this part were enlarged and inflamed but no ulceration had taken place. In a former case published by Mr. Makins the diverticulum was riddled with perforations which he thought might be the result of previous follicular inflammation.

CASE 4. *Intestinal adhesions*.—The patient was a man, aged 21 years, who 12 years before admission had been stabbed in the left half of the epigastric region. Three weeks before admission he felt himself unwell, the motions were very offensive, at times he vomited, and on one occasion the matter was said to be feculent. During this period the bowels were irregular, constipation for as much as four days alternating with days on which the bowels were opened by enemata. On admission the bowels had not acted for some days; the tongue was dry and brown; the pulse was feeble and 84 per minute; and the temperature was 97° F. The abdomen was not distended but marked peristalsis was observed around the umbilicus; the walls moved well. Nothing abnormal was discovered on palpation and there was resonance throughout. From the history and the general condition of the patient it was evident that the illness had commenced as a gastro-enteritis, followed by intestinal toxæmia. It seemed not the less clear that considerable obstruction existed in the course of the small intestine and an exploration was decided upon.

In spite of the cicatrix in the upper part of the left rectus over the cardiac end of the stomach it was thought better to make an incision through the right rectus, the centre of which corresponded with the level of the umbilicus, as it appeared unlikely that small intestine could be implicated at so high a level as the scar. This proved a considerable convenience, since the relation of the intestine to the scar which was after all found to exist was able to be investigated thoroughly and the danger of cutting directly down on adherent intestine was avoided. The jejunum was found attached to the scar and sharply kinked, dilated above the kink and considerably contracted below it. The adhesion was freed and the abdomen was closed. The after-progress of the patient was slow. For 12 days he lay with a sunken face, dark rings around his eyes, and mentally much depressed. The bowels acted freely, on several days the condition amounting to severe diarrhœa; the pulse remained of poor

quality, usually about 80 per minute; and the temperature was normal or subnormal. Nourishment was taken badly but there was no sickness. Neither the administration of purgatives nor of salol as an intestinal antiseptic appeared materially to influence the condition. The stitches were removed from the wounds on the eighth day, when they appeared soundly healed. On the fourteenth day the temperature rose above 100° and on examination of the wounds the one through the old cicatrix was evidently suppurating, so it was opened up at its superior end. Suppuration continued from this wound for the next 14 days, during which time the patient steadily improved, and on the thirty-first day he was discharged as well.

CASE 5. *Obstruction of the small intestine by an adherent vermiform appendix.*—The patient was a female, seven years of age, and was admitted with a history of six days' abdominal pain accompanied by vomiting and absolute constipation. She complained much of pain in the lower abdomen but tenderness was neither acute nor localised. The abdomen was moderately distended, resistant to palpation but not rigid, and respiratory movement was fair. Her temperature was normal and her pulse-rate was 114 rising to 120 at the time of the operation. Mr. P. W. G. Sargent opened the abdomen for Mr. Makins. An incision was made through the right rectus; on opening the abdomen a small quantity of clear fluid escaped, the upper part of the small intestine was much dilated, and below this a loop was found strangulated (not tightly) behind the vermiform appendix which was bulbous at its extremity and was adherent to the anterior abdominal wall. The bowel was readily released and the appendix was freed from the abdominal wall and removed. The child made an uninterrupted recovery and left the hospital on the twenty-first day.

CASE 6. *Ileo-cæcal intussusception.*—The patient was a female, aged eight months, a breast-fed child and with no history of anything solid having been swallowed. She awoke screaming one day at 5.30 A.M., a green motion was passed, and at 9 A.M. blood and mucus were passed. At 1.30 P.M. Mr. Wallace opened the abdomen for Mr. Makins and reduced the intussusception. The infant made an uninterrupted recovery and left the hospital well at the end of 14 days.

CASE 7. *Carcinoma of the ascending colon, with incomplete obstruction.*—The patient was a woman, aged 41 years. For nine months previously to admission she had not been in her usual health. She had noticed tenderness and swelling of the abdomen and three months before admission she had had two severe attacks of abdominal pain. This pain was very severe, colicky in character, "doubling her up," and was situated just above the umbilicus. Other attacks of a similar nature followed at short intervals and the more recent ones were accompanied by vomiting starting about six hours after the initial attack. Slight transient constipation followed each attack and only a small quantity of urine was passed. On one occasion her medical attendants (Mr. Osborne and Mr. Sandford Arnott) noted a tumour in the right iliac region.

The patient was kept under observation for some time in the hospital. Slight attacks of pain were frequent, during which a tumour was felt in the right iliac region and a peristaltic storm around it. An exploration having been agreed to an incision was made through the right rectus. On introducing the finger a small tumour was felt in this region, moveable and so insignificant as to be readily lost when released. When brought to the surface it proved to be a small ring carcinoma, of the variety in which the constriction resembles that which would result from tightly tying the bowel with a stout string. The tumour and about three inches of the ascending colon were removed and also some glands from the mesentery. The two cut ends of the bowel were then closed and a lateral ileo-colostomy was made. The after-course was quite uneventful and on the twenty-eighth day the patient left the hospital. The bowels were acting regularly and no attack of pain had occurred subsequently to the operation.

Remarks by Mr. MAKINS.—The notes of most of the above cases were made by the dresser, Mr. Dean. They do not call for much comment but it may be remarked that Case 1 was an instance of volvulus of the cæcum, a variety which in contradiction to the statements found in most of the text-books has been much more frequently met with at St. Thomas's Hospital than volvulus of the sigmoid flexure. In Case 3 the symptoms were remarkably typical of strangulation by a diverticulum. Thus there was a history of several less severe incomplete attacks and the characteristic moderate degree of strangulation due to the strangulating agent being furnished by a soft rounded cord. The presence of follicular inflammation in the diverticulum itself has already been remarked upon. Case 4 is of special clinical interest as illustrating the combination of signs of intestinal toxæmia and obstruction, two conditions often very difficult of differentiation. Case 5 again offers an excellent illustration of the comparatively subacute nature of the signs and charges when the strangulating band is furnished by an intestinal diverticulum. In Case 7 the main points of interest were the small size of the tumour and the fact that it was only readily palpable when peristalsis was abnormally vigorous; on the other hand, the remaining lumen of the bowel was as small as could be possibly compatible with the onward flow of the intestinal contents at all.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Hypertrophic Pulmonary Osteo-Arthropathy.

A MEETING of this society was held on Jan. 12th, Mr. ALFRED WILLETT, the President, being in the chair.

Dr. H. E. SYMES-THOMPSON read a paper on Hypertrophic Pulmonary Osteo-Arthropathy. He said that the condition of certain bones and joints to which this name was now generally applied was not looked upon as a separate entity among bone and joint affections till 1889, when Bamberger demonstrated two cases of bronchiectasis with clubbing of the fingers and painful enlargement of the ends of certain long bones. In 1891 he added five additional cases and also four cases of cardiac disease with more or less similar disturbances. Marie in 1890 proposed the name hypertrophic pulmonary osteo arthropathy for the affection and clearly differentiated it from acromegaly, to which it bore some resemblance. The term "hypertrophic pulmonary osteo-arthropathy" had been retained in this paper but the disease was called osteopathy for purposes of brevity. Hypertrophic pulmonary osteo-arthropathy was a chronic symmetrical disease of the bones, the joints, and the soft parts, affecting chiefly the distal segments of the extremities. The changes in the bones consisted chiefly in the deposition of friable new bone under the periosteum, in a sclerosis of the cancellous parts of the bones, and in the appearance of hard new bone in the diaphyses, encroaching on the medullary canal. In the joints involved an intermittent passive effusion was the most characteristic manifestation, but in certain cases the effusion was accompanied by evidence of inflammation. The joint cartilages were often the seat of erosions and in some cases there was vacuolation also. A progressive thickening of the soft parts round the joints usually took place but the thickening was never very great and it did not involve the skin. Clubbing of the fingers and toes of a special kind was nearly always present. There was no softening or suppuration in the bones or joints in osteopathy. Of the above changes those in the joints were the most evident clinically, while those in the bones quite overshadowed the joint changes in skiagraphs and in the post mortem room. The disease was much commoner in males than in females. Between 30 and 40 years was the commonest decade for osteopathy and the next most common period was between 20 and 30 years. Osteopathy was probably always secondary to some other disease and in the great majority of the cases the primary disease was a chronic suppuration in the thorax. It was caused occasionally by suppuration elsewhere but in such cases some disease of the lungs was generally present. Congenital heart disease was sometimes responsible for osteopathy and in a few instances syphilis was the only disease present. The same conditions which caused osteopathy probably led to the clubbing also. The above causes of osteopathy probably acted by producing poisonous bodies which circulated in the blood. The theoretical considerations on which this view was based might be summarised thus: toxic products, whether the result of normal metabolism or of an infective process, might be divided into two varieties—volatile and non-volatile. The volatile toxins were

eliminated under healthy conditions by the lungs in the expired air. The non-volatile toxins were eliminated for the most part by the cells of the liver. If for any reason the eliminating function of one of these organs was interfered with, the toxins over the fate of which the lungs or the liver respectively presided would not be sufficiently eliminated and would accumulate in the blood. This gave an explanation of the almost constant association of pulmonary disease and osteo-arthropathy. If the liver was for any reason unable to carry on its detoxicating work the other organs, such as the spleen were capable of taking its place. If, on the other hand, anything interfered with the amount of respiratory surface available in the lungs the volatile toxins had no other way of escape and they therefore accumulated in the blood. If these conclusions were correct the presence of a toxic focus in the lungs was not essential for the production of osteopathy. What was essential was the co-existence of a toxic focus somewhere in the body with a condition of the lungs which interfered with normal respiratory interchange—e.g., a fibrosis, or even a chronic congestion only.

Dr. C. THEODORE WILLIAMS, after congratulating Dr. Symes-Thompson on his paper, said that he had not seen any large number of cases of hypertrophic pulmonary osteo-arthropathy. On the other hand, he had seen a very large number of cases of bronchiectasis but had very seldom seen hypertrophic pulmonary osteo-arthropathy follow that disease. Dr. Symes-Thompson had shown that as the pulmonary discharge varied the condition of the bones also varied. It was, however, difficult to see how such variation could take place if there was an actual thickening of bones. Dr. Symes-Thompson had attributed the disease to a toxin and had also stated that the disease occurred in congenital heart disease; it was difficult to conceive what toxin could be produced in congenital heart disease which would give rise to osteo-arthropathy.

Dr. PERCY KIDD mentioned four cases which he had recently seen. In one there were tuberculosis of the sternum and but little affection of the lung. He thought that the important change in most cases was an arthritic change and not an osteo-arthritic. In one of his cases there had been marked pain and there was marked thickening around the joint. In one of the cases examined after death there was no change in the joint but marked thickening around the joint. He referred to a case in which there was hypertrophic pulmonary arthropathy but without any physical signs of disease of the lungs. Some time later signs of growth in the lung occurred and the patient died. The joint symptoms had then been in existence for two years. He was of opinion that the growth was not the cause of the osteopathy in this case. This patient had developed hair on the face and other male characteristics which suggested some altered metabolism. He quite agreed with Dr. Symes-Thompson that the disease was due to a toxin. In the earliest stage of the disease it rather closely resembled rheumatoid arthritis.

Dr. R MAGUIRE said that the theory which regarded the lung as a "gland" was one which was too often neglected. Some of the acute attacks of dyspnœa which occurred without there being any signs of disease in the lung were attributable to some altered function in the "gland." He mentioned the case of a boy, aged 16 years, who suffered from bronchiectasis with a cavity at the base of the lung. The temperature was very irregular and this was probably due to absorption of toxic material. There was a considerable amount of fœtid sputum. Swelling of the tissues around the joints and effusion into the joints were present. Intravenous injections of formaldehyde were given, the temperature became more regular, and the joints less swollen, and at the same time the amount of sputum was also diminished. This result was the exact reverse of that obtained in the cases mentioned by Dr. Symes-Thompson for in them as the amount of expectoration increased the joint trouble began to improve. He was of opinion that the joint trouble was due to invasion by a micro-organism.

Mr. W. G. SPENCER said that he considered this affection rather one of the joints than of the bones, but that it was difficult to draw a sharp line between the early stages of this disease and chronic pyæmia. He did not think that the toxic theory could alone explain the condition but that venous congestion might play a very important part in its production. He referred to the joint affection which occurred in "mother-of-pearl" workers who were for the most part young girls. This disease appeared to be due to the irritation of the lung by dust. He was of opinion that the question of the cause of the disease was a more complicated one than could be explained by the presence of a toxin only but that venous congestion played an important part.

Dr. G. NEWTON PITT referred to the fact that in the advanced cases there might be thickening of the bones, clubbing of the fingers, and affection of joints, but that in the earlier cases only one of these might be present and this might render the diagnosis difficult. He suggested that it was important to examine the medulla of other than the long bones so as to show if any inflammatory conditions occurred in them also.

Dr. S. RUSSELL WELLS suggested that in the human body, as in the laboratory, organisms grew best on certain media and thus the disease tended to affect certain tissues. As the disease affected cartilage and fibrous tissue in the lung, so in the same way it affected those parts of the body in which fibrous tissue and cartilage occurred—viz., the joints.

Dr. SYMES-THOMPSON replied.

MEDICAL SOCIETY OF LONDON.

The Use of Serum and Other Inoculations in Pyogenic Infections.

A MEETING of this society was held on Jan. 11th, Dr. F. DE HAVILLAND HALL, the President, being in the chair.

Mr. W. G. SPENCER opened a discussion on the Use of Serum and Other Inoculations in Pyogenic Infections by reading a paper on the Use of Antistreptococcic Serum. Streptococcus infection presented itself clinically under many forms—e.g., erysipelas, septic inoculation of the extremities, septic pharyngitis, scarlet fever, puerperal fever, endocarditis, pneumonia, or pleurisy. Any one of these forms might take such a virulent course that the indirect methods of treatment available to the physician proved inadequate. A generalised streptococcal infection was diagnosed by finding streptococci in the blood and no definite proof of the value of antistreptococcic serum could be deduced from any case in which the streptococcus has not been found in the blood beforehand. The blood should certainly be examined repeatedly in all cases in which the antistreptococcic serum was being administered, but difficulties and delays in carrying out bacteriological examinations were often inevitable and time was an essential factor in the commencement of the treatment. However, apart from the examination of the blood, clinical observation went far to establish streptococcal infection in many of its varieties. The difficulties of producing a satisfactory antistreptococcic serum were then referred to. It was very probable that many reported cases of failure might have been due to the serum never having been standardised or to its having subsequently become inert. The essential requirements for the successful use of the serum were as follows: (1) evidences of a general infection by streptococci; (2) a standard antitoxin; (3) early administration after onset of the fever; (4) subcutaneous injection, and, perhaps, in very severe cases, intravenous injection; the administration by the mouth or rectum might be rejected and summarily dismissed; and (5) the administration of full doses every three or four hours until relief. Failure to comply with these requirements might explain many possible sources of failure. Reference was then made to the clinical varieties of streptococcus infection. 1. In acute septic pharyngitis the best results had followed the administration of streptococcal antitoxin. 2. In cutaneous erysipelas, especially of the face and head, the indication for the serum treatment in this class of case was limited. 3. In cellulo-cutaneous erysipelas there was for the most part local suppuration due very often to a mixed infection with staphylococci; hence the issue was confused. 4. Scarlet fever Dr. Klein had for many years connected with a variety of streptococcus and this view of the pathology of the disease appeared to be generally accepted. Certain cases of malignant scarlet fever had been successfully treated by the serum. 5. In puerperal fever they reached the most important section of the subject. The chief cause of fatal puerperal fever mainly consisted of streptococcal infection. It was, however, erroneous to infer that puerperal fever was invariably streptococcal in origin. Staphylococci and gonococci might cause the infection, even the diphtheria and colon bacillus had been found in the lochia. 6. Cases of

endocarditis and pericarditis were either secondary to some local lesion or, when arising primarily, were diagnosed by finding streptococci in the blood. In primary cases it was essential to find streptococci in the blood beforehand and to note their disappearance after the administration. 7. In cases of septic pneumonia and empyema the serum had been administered but with very doubtful benefit. In conclusion, Mr. Spencer expressed the belief that there were abundant reasons for the proper use of antistreptococcic serum. There should be available for the practitioner an abundant supply of active standardised serum of the special kind required for use at the shortest notice.

Dr. A. E. WRIGHT communicated a paper on Inoculation in cases of Staphylococcal Infection. He remarked that he would confine his attention to that kind of immunisation which was developed within the patient, such as could be accomplished in chronic or recurrent suppurative disorders, acne, boils, sycosis, and other suppurative conditions in the skin, and chronic generalised pyogenic conditions. Reference was made to a man who infected his finger, the infection from which spread up the arm and became generalised and chronic for ten years, the general staphylococcal infection taking the form of repeated crops of boils and suppurative lesions in various parts. Dr. Wright had administered staphylococcal vaccine prepared from dead cultures and the patient had rapidly recovered. Five other cases were treated with like success.[1] 15 more cases (making a total of 21) of chronic recurrent suppurative conditions had been successfully treated in this way. Cases did best if treated by the vaccine derived from their own staphylococcus. Cases required watching and the treatment adapted from day to day. The phagocytic reaction might vary considerably and in a negative phase go down to 0·5 of normal. Similarly the serum of immunised animals might vary and that was why the sera on the market were untrustworthy.

Sir FELIX SEMON, referring to the treatment of acute intoxications—Ludwig's angina, for instance—remarked that they were not necessarily of streptococcal origin, they might be due to any of the pyogenic group of organisms. The treatment to be of any use must be extremely prompt. The sera on the market were better than nothing.

Dr. E. W. GOODALL thought they had not advanced very much in the last four years in their knowledge of the subject. In regard to scarlet fever Marmorek's serum had entirely failed. He did not agree that the streptococcus agglomeratus was the organism of scarlet fever, though no doubt the pyogenic complications might be due to streptococci, and reference was made to a case of severe angina in which recovery very rapidly took place under the serum treatment.

Dr. CYRIL OGLE had collected records of 110 cases treated by antistreptococcic serum. The results of his analysis showed some very hopeful results.

Dr. W. J. GOW referred to puerperal fever and expressed the belief that no real good had been accomplished in puerperal cases. The uncertainty of the serum on the market was a grave objection. Results would necessarily be fallacious, for many puerperal women incurred considerable temporary elevations of temperature which subsided spontaneously or under simple local measures.

Dr. F. J. POYNTON remarked that no one knew the nature of the several pyogenic cocci. The difficulty of preparing the sera was very great. The sera on the market were antibactericidal, which property was very easily and rapidly lost. Evil results arising from their use had been recorded, such as multiple arthritis and enlargement of the spleen.

The PRESIDENT thought that in desperate cases the use of these sera was justified. He had recently treated five cases; two were severe cases of erysipelas, one was a case of malignant endocarditis, one of Ludwig's angina, and one of septic pneumonia. Early administration was very important. Other precautions should not be neglected. Several extraordinary recoveries had been recorded when the sera had been administered by the mouth or the rectum.

Mr. SPENCER and Dr. WRIGHT replied.

CLINICAL SOCIETY OF LONDON.

Pneumococcal Peritonitis.

A MEETING of this society was held on Jan. 8th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Sir DYCE DUCKWORTH and Professor HOWARD MARSH communicated a paper on a case of Pneumococcal Peritonitis. The patient, a woman, aged 27 years, was seized with headache, generalised pains, and a rigor on Feb. 26th, 1903. The temperature was found to be 104·2° F. on the following day and symptoms of general peritonitis followed. Widal's reaction was negative and a large polynuclear leucocytosis was present. On March 2nd Professor Marsh and Mr. A. A. Bowlby saw the case and a diagnosis of typhlitis with some general peritonitis was made. Professor Marsh operated and signs of inflammation were seen in the peritoneum and the large intestine. The appendix was found to be constricted at the base, dilated, and full of mucus above; it was ligatured and removed. There was some thin, turbid, and dark-coloured fluid in the peritoneal cavity but no adhesions were found nor was there any evidence of the perforation of a viscus. A culture of the fluid showed pure specimens of the pneumococcus, the presence of which was confirmed by an inoculation test. Three days later hiccough and abdominal pain supervened and ten cubic centimetres of No. 1 antipneumococcic serum were injected. On March 6th the injection was repeated. Signs of fluid in the left pleura appeared and on the 20th pus was found on exploration. Resection of part of the ninth rib was performed on the next day, when 12 ounces of sour-smelling pus were evacuated. The further progress of the case, though slow, was uneventful. The sudden onset and the rapid and grave development of the peritonitis closely corresponded with that which is observed in pneumococcal inflammations in the joints and elsewhere.

The PRESIDENT also communicated a case of Pneumococcal Peritonitis. The patient was a girl, aged eight years, who was admitted under his care into Guy's Hospital on Nov. 19th, 1903. On the 10th abdominal pain set in, followed by a rigor, and two days later signs of pneumonia developed. On admission the abdomen was distended and tender, moving very little on respiration, while physical signs of pulmonary consolidation at both bases were present. Some herpetic vesicles were seen at the base of the nose. Mr. R. Clement Lucas performed laparotomy and a quantity of odourless pus together with masses of lymph was removed. The cavity was irrigated with hot saline solution and drained. The pneumonia on the right side cleared up but on the left side physical signs of empyema manifested themselves and on the 27th six ounces of pus were withdrawn resection of a portion of rib being performed four days later when more pus was evacuated. Cultivations made by Dr. J. W. H. Eyre from the peritoneal pus gave a pure growth of the pneumococcus; those taken from a second collection in the left iliac fossa which was incised on Dec. 11th gave a growth of pneumococcus associated with the staphylococcus aureus. Cultivations from the pus aspirated from the chest were sterile but under the microscope showed badly staining diplococci and empty capsules, characteristic of a pneumococcal empyema. The child was making good progress. The President discussed the question of the seat of primary infection which he thought was shown by the sequence of events to be the lung; the peritonitis and empyema he considered were secondary.

Mr. STANLEY BOYD referred to the case of a woman, aged 26 years, upon whom he had operated for symptoms of peritonitis, three pints of odourless pus being evacuated from which pure cultures of the pneumococcus were obtained. The abdomen was distended in a peculiar fashion and moved with surprising ease. No information was forthcoming at the time of operation as to the primary origin of the disease but the possibility of infection through the pelvic organs might be considered.

Dr. J. H. BRYANT alluded to three cases of pneumococcal peritonitis which he had published in 1901 in which the primary point of infection was the peritoneum. He considered that an alimentary origin was not at all improbable, especially as the pneumococcus might be found in the throats of healthy individuals. He called attention to the fact that abdominal pain was frequently complained of in pneumococcal pneumonia and he thought that the adhesions sometimes found post mortem between the lung and the diaphragm might account for this. Pneumococcal peritonitis was rare; of 162 cases of pneumococcal infection reported by Dr. Netter of Paris, in only two had the peritoneum become infected.

Dr. J. FAWCETT stated that in 182 fatal cases of lobar pneumonia which had occurred in Guy's Hospital during the last five years and in which necropsies had been made five only showed any evidence of infection of the peritoneum and

[1] THE LANCET, March 29th, 1902, p. 874.

this was very slight. The conclusion to be derived was that in pneumococcal peritonitis the infection was generally a primary infection of the peritoneum or part of a general septicæmia.

Dr. W. LANGDON BROWN referred to a case of pneumococcal empyema in a girl, ten years of age, in whom signs of fluid appeared in the abdomen and right knee-joint. The abdomen was not opened as the condition cleared up. He considered that this was probably a case of pneumococcal peritonitis in which recovery ensued without surgical interference.

Mr. C. H. GOLDING-BIRD said that although a tuberculous appendicitis was known, yet pneumococcal appendicitis was not as yet recognised. He thought that there were many points in Professor Marsh's case which might justify the latter description.

Dr. EYRE felt sure that if bacteriological examinations were made more frequently than they were the pneumococcus would be more often found. He called attention to one curious property possessed by the pus from these cases—namely, its tendency to auto-sedimentation, the upper layers soon becoming clear. He thought that such a simple test might be found of assistance at the time of operation. He also pleaded for the importance of performing animal inoculation experiments as a confirmatory test for the presence of the organism. Staining tests were fallacious.

Dr. HERBERT S. FRENCH read notes of a case under the care of Dr. G. Newton Pitt in which he had performed the necropsy. Acute peritonitis with consolidation of the base of one lung was found. He thought that the cases might be divided into groups, one where the infection was directly into the peritoneal cavity and another in which the organisms entered the blood and so disseminated themselves.

Sir DYCE DUCKWORTH, in reply, said that he thought that pneumococcal peritonitis might exist in varying degrees of virulence. The improvement in his case after the use of serum was certainly *post*, if not *propter, hoc*.

Professor MARSH replied that he was unable to state whether the case was one of primary appendicitis. He thought that to the list of conditions which might imitate appendicitis pneumococcal peritonitis must be added.

The PRESIDENT, in reply, said that the presence of an extraperitoneal abscess containing pneumococci in association with another organism was an interesting feature in his case.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Treatment of Tuberculosis by Beraneck's Tuberculin.—Successful Operation for Typhoid Perforation.—Pylorectomy and Gastro-jejunostomy performed Five Years after Operation for Perforating Gastric Ulcer.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Jan. 8th, Mr. C. RICHARDSON, the President, being in the chair.

Dr. A. CHRISTY WILSON (Doncaster) read a paper on the Treatment of Tuberculosis by Beraneck's Tuberculin and said that he believed that the view was steadily increasing among those who had seen most of the results of the open-air treatment of consumption that the cures were not so numerous as was at first anticipated. He became acquainted with Beraneck's tuberculin as a result of several visits to this observer's laboratory in Neuchâtel. It was claimed that this tuberculin was innocuous and convenient in the treatment of tuberculosis. It was obtained by a mixture of basitoxins and acidophile toxins of the tubercle bacillus. It was less toxic than Koch's tuberculin. The patient was injected daily, the initial dose being about 0·002 gramme. The presence of hæmoptysis was no contra-indication. The larynx had been painted with the pure tuberculin for several weeks with no inconvenience. Improvement had been noted in 60 out of 90 cases of phthisis. Dr. Wilson, in conclusion, gave details of some illustrative cases.—Dr. E. F. TREVELYAN drew attention to the fact that Beraneck's tuberculin appeared to be prepared on much the same lines as Koch's old tuberculin and tuberculin R and he doubted whether an active immunisation by toxins was likely to provide a really efficient treatment of tuberculosis. After some actual experience of sanatorium treatment he was quite prepared to admit that something more was wanted, no doubt in the shape of a bacteriological treatment, especially in cases with persistent pyrexia. If Beraneck's tuberculin was as harmless as Dr. Wilson maintained it was only right to try it.—Dr. T. CHURTON also took part in the discussion and Dr. WILSON replied.

Dr. A. G. BARRS and Mr. WALTER THOMPSON described a case of Successful Operation for Typhoid Perforation occurring in a young woman. Dr. Barrs gave a clinical outline of the case and emphasised the importance of early diagnosis. The operation was performed on Oct. 5th at 11 P.M., two hours after the occurrence of perforation. The patient was suffering severely from shock at the time. She was therefore infused with saline solution and five minims of strychnine were injected subcutaneously. Under ether an incision was made four inches long in the right linea semilunaris. On opening the abdomen some four or five ounces of turbid fluid were found. There was no fæcal odour or escape of fæces, the intestines being small and empty. A small, cleanly punched out perforation was found about four inches from the ileo-cæcal valve. It was of about the size of a filiform bougie and was so small that it was missed at the first examination. The whole ulcer and perforation were inverted with a single continuous suture. Two other ulcers which had roughened the peritoneum were treated in the same manner. The abdomen was cleaned and drained with gauze. The greater part of the wound was closed. For the next four days it was impossible to say whether the patient was suffering from general peritonitis or not. The wound suppurated and healed slowly. She was now well.—Dr. CHADWICK, Dr. CHURTON, Mr. H. LITTLEWOOD, Mr. B. G. A. MOYNIHAN, and the PRESIDENT took part in the discussion, and Dr. BARRS and Mr. THOMPSON replied.

Dr. CHRISTY WILSON showed a case of Pylorectomy and Gastro-jejunostomy performed five years after operation for perforating gastric ulcer. On May 3rd, 1901, he read before a meeting of the society notes of four cases of perforation of the stomach and duodenum. The patients, all men, were treated in the Doncaster Infirmary and, he believed, were cured not only of the perforation but of the ulcers and indigestion. Two out of the four had had recurrence in the site of the original ulcer. One recovered after three weeks of rectal feeding followed by dieting and one came back five years after his first operation (May 1st, 1903). Pale, emaciated, and scarcely able to walk, he relapsed six months after his perforation. One and a half hours after every meal he had severe pain and usually vomited. Two weeks of rectal feeding and dieting doing no good the abdomen was opened by cutting through the cicatrix of the old incision. Dense adhesions surrounded the pyloric end of the stomach and the duodenum. They were very vascular and presented many large veins which were very friable so that it was somewhat difficult to clear the stomach and duodenum. The pylorus was thickened and indurated, so the duodenum was divided an inch and the stomach one and a half inches from the pylorus. As they would not approximate both were closed and a posterior gastro-jejunostomy was performed. The patient's recovery was rather slow but three months after admission he returned to his work and had continued perfectly well ever since. Examination of the specimen showed that the pylorus was occupied by a large ragged ulcer with an indurated base, but fortunately for the patient it was non-malignant.

The following cases and specimens were exhibited:—

Dr. C. OLDFIELD: (1) A specimen of Hydatidiform Mole; and (2) a case of Pyosalpinx.

Dr. CRAWFORD WATSON (Halifax): A case of Splenic Enlargement.

Mr. LITTLEWOOD: (1) Suppurating Fibroid removed by Abdominal Hysterectomy; (2) a Portion of Catheter removed from the Male Bladder; and (3) two specimens of Ovarian Cysts associated with Pyosalpinx.

Dr. CHURTON: Three cases of Recovery from Tuberculous Meningitis.

Dr. J. B. HELLIER: Specimens of Tubal and Ovarian Disease.

Dr. J. GORDON SHARP: A case of Periodic Tonic Spasm of the Muscles of the Right Upper Extremity following Injury to the Left Motor Area.

Mr. MOYNIHAN: A series of specimens from cases of Enterectomy, Colectomy, and Proctectomy.

Dr. CHADWICK: A case of Aneurysm.

Dr. A. L. WHITEHEAD: A case of Empyema of the Right

Frontal Sinus, right Sphenoidal Sinus, both Antra of Highmore, and of the Ethmoidal Cells on both sides.

Mr. G. CONSTABLE HAYES: Skiagram and specimen of a Piece of Steel removed from the Eye by Mr. H. Secker Walker with the Electro-magnet.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

On the Treatment of Various Forms of Cutaneous Disease by the X Rays and Light.

THE fourth meeting of this society was held on Jan. 8th, Professor JOHN CHIENE, the President, being in the chair.

Dr. W. ALLAN JAMIESON read a paper on the Treatment of Various Forms of Cutaneous Disease by the X Rays and Light. He said that the epidermis when structurally intact had hitherto offered such an impenetrable bulwark and so successfully protected the underlying structures that agents designed to exert action on tissue elements only very little beneath the surface had been found uncertain and inefficient. No doubt this statement, as Unna had shown, required modification when the epidermis had become unsound and therefore porous. A certain and sometimes an undesirable amount of absorption was then possible but this very unsoundness restricted their efforts as harm might easily be wrought. Hitherto their means had either been direct caustics or those which occasioned irritation in the first instance, as iodine. Quite recently, however, the introduction of the x rays, of the Finsen light under favourable conditions, of radium, and of high-frequency currents had assuredly given them sources of energy which could influence the various tissue elements in and beneath the epidermis. Dr. Jamieson limited himself to a consideration of the results obtained in the Edinburgh Royal Infirmary since the employment of the x ray and light treatment was introduced. He referred to the improvement in the old spring contact breaker by its replacement by a mercury motor interrupter and the beneficial results in treatment thus effected. Constant supervision of the cases under treatment was necessary so as to observe the earliest signs of reaction and thus to cease the exposures before the limit had been materially passed. There were instances where the reaction did not show itself until days, or occasionally even weeks, after the last exposure, but when such appeared so remotely it was seldom severe. Another point which had been closely considered was the protection by lead masks of parts other than those involved in the disease. When affected areas encroached on bearded portions the shedding of hair could not be wholly avoided, but this was a minor ailment, particularly as the hair usually after a time returned. The distance from the tube had also occasioned considerable thought, as while the nearer the more intense the effect there was also a greater risk of burning. Hence a mean of from four to six inches had been adopted. The duration had been on an average five minutes to each part exposed. Working with a comparatively high ampèrage and low voltage since accumulators were used exposures were made with a cold anti-cathode. While not in any way courting reaction it had been found that a moderate degree was not harmful. Indeed, it was a good test that the rays were acting on the tissues, but since no one could say how far in any given case such reaction might go further exposures were stopped on its appearance. Burns of any severity had occurred almost exclusively in cases of lupus or in favus or sycosis of an intractable kind where the rays were of little or no account. No scars from burns had been met with in cases of rodent ulcer or in the two cases of mycosis fungoides. Sometimes the plan suggested by Dr. Norman Walker of painting with pure carbolic acid where the disappearance of the lesion was slow had been followed by improvement. This had chiefly been employed in lupus vulgaris where great variations in the sensitiveness to the rays was found. A small number of cases, however, reacted to but one or very few exposures and the interval had in them to be prolonged. The tubes often became somewhat rapidly "hard" and in his experience less active. He had not found "soft" tubes, those having a sparking distance of over three inches, particularly apt to burn, while they were certainly more efficient in curing the disease. He had found that weather conditions materially affected the rays, that on cold raw days reactions more readily occurred and this was what might have been expected; but while cold was one it was not the sole climatic condition which favoured reaction. During the last 18 months 133 cases of lupus vulgaris had been treated and the greater proportion of these by exposures to the x rays. Some, however, had been treated exclusively, whilst a large number had been partially treated, by the Finsen light. Of favus 30 cases, of rodent ulcer 21, and of sycosis 12 had been treated and in addition two cases of mycosis fungoides. Unfortunately, the results could not be stated statistically as nearly all the patients treated were out-patients. Some discontinued attendance or the exposures were interrupted for various reasons. It might be said generally, however, that everyone who persevered had been if not cured at all events materially benefited. 1. As regards lupus vulgaris, which bulked most largely, formerly in all forms of treatment, while the centre might be cured, the margins of the area were apt to remain the seats of active disease which ever tended to encroach on healthy skin. In very many examples the effect of x-ray treatment was to check the progress at the margins which scarred over but small nodules might persist in the centre; yet this also greatly improved, though, if extensively involved, the interior of the nostrils might need the employment of scraping or other topical medication; in not a few the crusting, so suspicious a feature, might completely dry up under the x rays alone. Undoubtedly, the soil in lupus had to be reckoned with. When the skin was soft, pale, and tender and the patient exhibited very markedly the signs of the strumous diathesis, such patients were somewhat prone to react readily and not always went on as satisfactorily as could be wished. This, however, was no valid reason for not employing the rays, as in many most apparently unpromising cases excellent results were obtained. Even if by the rays they could not be quite sure of ultimate cure the area of disease could be immensely reduced and so brought within manageable limits. Other and older methods were quite compatible with the use of the rays and could be employed with advantage as auxiliaries. An important question had been raised as regards metastases. In the treatment of a case of lupus by the x rays tuberculous peritonitis and abscesses had developed in other parts of the body, but this was a solitary example and it was most unlikely that the action of the rays was to set the bacilli free in the circulation after the manner ascribed to tuberculin. Dr. Jamieson had found that the modification of the Finsen light provided by the Marshall and Woods lamp was most applicable to small patches of lupus where firm pressure could be exerted owing to their situation over bony structures or for residual nodules similarly placed after x-ray treatment. He related one case treated exclusively and most successfully by the Finsen light and others nearly as successful had resulted. This method had the advantage of not causing burns but was much more restricted in its applicability and the progress was slower. The application of adrenalin to the lesions shortly before exposure to the lamp was abandoned as the exaltation in effect was not at all commensurate with the expense. 2. Rodent ulcer. The curative effects of the x rays on this disease were now universally conceded. Perhaps the best results of their unaided use were obtained in cases of fungating rodent ulcer of the face. When progress was watched the margin was seen to recede and with the absorption of the new growth healthy epithelium advanced from without inwards. The more completely the rodent ulcer was limited to the skin and subcutaneous tissue the more brilliant was the success, but even when periosteum and bone were implicated a cure might follow. In other forms of cancer, however, the effects had not always been so good and in one advanced case fresh masses of cancerous growth sprouted up even when the rays were being actively employed. The rays found their special field of applicability in situations such as the nose, where excision was likely to occasion great disfigurement. In order to shorten the time required for the absorption of patches of rodent ulcer it was desirable to get rid of as much of the new growth as possible by scraping, together with the application of chromic acid to small areas at a time. As to permanence of results Dr. Jamieson could not speak definitely and that the disease might recur even after prolonged exposures and apparent cure was shown in the case of a man, aged 58 years, who had been treated energetically two years previously for extensive superficial rodent ulcer of the cheek but who now exhibited a marginal extension in the shape of a deep groove all round the still healthy cicatrix. Some held that the x rays had less control over recurrence after previous use. 3 Sycosis. Only intractable cases had been treated. Some of these stood the application with merely the production of

a sensation of heat, while in others swelling, redness, and pain rapidly followed. In all after a longer or shorter period the hairs fell out while the pustules became fewer and fewer. Yet unless the part could be rendered absolutely bald and a smooth, white, scar-like surface left the disease might recur. In such cases the fine returning hairs on being extracted were seen to have a minute amount of pus at the root. 4. Favus. With loosening and pulling out of the hair the disease died out, a polished, hairless surface remaining. In some cases exposures amounting to an hour caused separation of the hairs, in others a much longer period was required. Cases of favus did not usually react unduly. 5. Mycosis fungoides. In this rare disorder the rays had proved to be the sole means of arresting an otherwise hopeless disease. Dr. Jamieson had treated a patient more than a year ago and at present she remained well, in so far that all the parts of the body then exposed to the rays continued to be free from recurrence, yet one or two patches and two small tumours had developed in situations which were not submitted to the rays. Another case in the erythrodermic or premycotic stage had so greatly improved as to be almost well. (The patient was exhibited.) As regards the mode of action of the x rays, it was widely accepted that they exerted no directly lethal effect on microbes and this was supported by what occurred in sycosis. Though the rays had the power of causing the separation of the hair from its papilla and of inhibiting its growth and renewal at least for a time they only killed the staphylococci by removing the pabulum furnished by the hair and its sheaths *in situ* and by emptying the follicular tube much in the same way as an alveolar abscess ended when the offending tooth was extracted. In proof of this it had been shown that in sycosis the vitality of the staphylococci was not wholly destroyed since pustules reappeared in places coincidently with the re-growth of the young hair. In favus epilation had been for long the favourite method of cure and the rays merely did this more thoroughly and naturally but did not of themselves put an end to the achorion. The apparent bactericidal action in lupus could be best explained by their promoting phagocytosis. The bacilli were few in number and scattered throughout the nodules and were thus readily dealt with when the polynuclear leucocytes were increased in number and activity. In mycosis fungoides and rodent ulcer non-microbic diseases were met with, and the notable effect of the rays in these diseases seemed purely owing to a power which they possessed of recalling aberrant cells to obedience to trophic nerve control. Dr. Jamieson exhibited many patients to show the results of treatment in various skin diseases.

Dr. WALKER said that time was a great consideration and the period available for treatment had in each case to be determined carefully. The extent of the disease and the circumstances of the patient might allow of one or two prolonged exposures with a soft tube. Considerable destruction might be a result in such cases and though the healing was slow less time, on the whole, was lost. Telangiectases might occur but were easily cured by electro-puncture. He narrated cases to illustrate the good effects of exposures made at considerable intervals. In cases of rodent ulcer it did not seem to matter whether hard or soft tubes were employed but the difficulty was in knowing when to stop. Ulcerated cases did best and the resulting scar was excellent. He referred to the cosmetic effect of the x rays as contrasted with surgical procedure in cases where the cartilage had been attacked. In cases of hypertrichosis they would naturally have expected that the condition would be benefited but in Dr. Walker's experience the results had not been sufficiently certain to lead him to recommend the treatment. Where the hairs were diseased and where their removal was desired as part of the treatment this method was applicable. In favus the effects were most satisfactory but not so in ringworm for the simple reason that the hairs broke off. In sycosis experience had taught that removal of the hairs was not sufficient and the effects of treatment of this disease by the x rays confirmed the view that such rays were not germicidal. Dr. Walker referred to the inapplicability of the rays in the treatment of psoriasis and to their excellent effects in cases of widespread warty growths. Dr. Walker thought that as regards methods most depended on the lamp and that information gained from the operator's own apparatus was the most important of all. Too much stress could not be laid on the importance of protection. Dr. R. B. Wild of Manchester had very recently referred to the possibility of phthisis being set up by the treatment, death from phthisis having occurred in two out of his 80 cases. Dr. Walker agreed with him in thinking that there was no connexion between this result and the treatment. Dr. Wild gave the percentage of satisfactory results in the case of the Finsen lamp as 75, in x-ray treatment 74, and with the Lortet-Genoud lamp as 24. The results obtained in the Royal Infirmary, Edinburgh, were not dissimilar. Dr. Walker was satisfied that the x rays were at least twice as useful as the London Hospital lamp. Dr. Walker concluded by giving a warning against the indiscriminate use of such treatment and demonstrated many patients.

Dr. DAWSON F. D. TURNER remarked that metastasis was unusually common in scirrhus of the breast treated by the x rays. As only those rays which were absorbed could be of benefit he preferred soft tubes for superficial cases. For the proper treatment of disease by electrical methods some knowledge of physics was essential. The increase in the amount of unqualified electrical practice by so called institutes and by tradesmen was greatly to be deplored. Practitioners should recommend their patients to medical men who had had an electrical training. Dr. Turner exhibited the following:—1. A case of Scirrhus Erythema following removal of the breast; 46 exposures of four minutes each sufficed to remove it entirely. 2. A case of Fibro sarcoma of the Frontal Bone. It was so large that the right eye was almost entirely occluded. After only 11 exposures of four minutes each the swelling had greatly diminished and the patient could see easily with the right eye. 3. A case of Lupus under treatment by radium. 4. A Recurrent Scirrhus in which after 26 exposures the nodular and glandular swellings had disappeared. 5. A case of Recurrent Sarcoma[1] which had so improved after 48 exposures that the man had returned to his work.

Dr. H. E. FRASER said that the more abnormal the tissue the greater was the effect produced by the x rays. He thought that soft tubes were more liable to produce irritation. The erythema which resulted from treatment might not come on until the treatment had been stopped and the same occurred with sloughing. In one case of rodent ulcer an exposure of 25 minutes was accidentally given. A large slough formed but the result was most satisfactory and no recurrence had taken place a year later. The proliferating diseases as lupus and rodent ulcer seemed most easily and beneficially affected. The analgesic effects of this treatment were often great even though no benefit to the disease, as in a case of sarcoma of the ribs, resulted.

Mr. D. M. GREIG and Dr. GARDINER also took part in the discussion.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Jan. 8th, Dr. J. Groves, the President, being in the chair.—Dr. J. Spottiswoode Cameron, medical officer of health of Leeds, read a paper on the Sophistication of Foods. By this term he understood not only the addition or substitution for the genuine article of another having a plausible resemblance thereto and the partial removal of some valuable constituent, but also the addition without the knowledge of the purchaser of some foreign matter producing or preventing chemical changes in the food, unless its presence were essential and implied in the description. Thus a ham would not be a ham without salt and tarry matters and the use of salt alone was understood in the case of salt pork, beef, and fish. But in all these the undeclared addition of borax was a sophistication and if the consumer's health suffered he was wronged and entitled to redress, whereas if the presence and percentage of the boric acid were declared no one was to blame. Most persons preferred their coffee with a little chicory but the addition or substitution of 90 per cent. was clearly a fraud though legalised by Section 8 of the Act of 1875. As regards the addition of margarine to butter, the Act of 1899 appeared to be strict enough, but there being no standard of butter and the soluble fatty acids calculated as butyric acid varying from 4 5 to 7 per cent. nearly a fourth of its weight of margarine might be added with impunity. Milk was very largely diluted, for the effect of fixing a standard had been its acceptance not only by the trade but by magistrates as a normal, not as a minimum, and the very general practice of watering rich milks down to it. He hoped that the standard percentage of fat would be raised to 3·25, which several companies found no difficulty in obtaining. Two

[1] THE LANCET, Jan. 2nd, 1904, p. 23.

of the most "burning questions" in connexion with adulteration were those of preservatives and of warranties. The result of fixing standards or permissible maxima of preservatives had been similar to that in the converse case of the minimum of fat in milk, additions not greatly exceeding the maximum allowed being looked on as venial. With the recent improvements in sterilising and preserving foods by heat or cold, by sugar, and the like, Dr. Cameron saw no need for the use of chemicals which, if not poisonous, were at least of doubtful wholesomeness. Formic aldehyde ought to be prohibited and the use of boric acid should be limited and discouraged. The addition of copper salts for "greening" peas and other vegetables should be made illegal. The recommendations of the committee on preservatives appointed by the Local Government Board were reasonable and he regretted that they had not long since received legal sanction. The law with respect to warranties was in an unsatisfactory state. The Margarine Act of 1887 had introduced the mention of invoices and as one result in several instances an invoice handed in had been held to exonerate the retailer, though when proceedings were taken against the wholesale dealer who had given it, it was declared to have nothing of the nature of a warranty and the summons against him had been dismissed. Section 20 of the Act of 1899 dealt with the "use of warranty or invoice as defence and proceedings against the warrantor" but in Subsection 6, stating the penalty for giving false warranties, there was no mention of invoices.—Mr. C. Cassal, F.I.C., said that a sample of butter was pronounced by himself and the chemist of the Board of Agriculture to contain 17 per cent. of foreign fats, whereas it was found to have been made from the milk of two cows—one normal, the other diseased and yielding a butter containing, as usually estimated, about 30 per cent. of fats other than those of milk, together with pus cells, shreds of tissues, coagula, and bacteria of all kinds. Such butter was a fraud, for it mattered not to the consumer whence the foreign matter was derived.—Mr. D. L. Thomas, medical officer of health of Stepney, said that he had to prosecute more than one dealer for milk containing less than 2 per cent. of fat and on "an appeal to the cow" which give but 1½ per cent. he found that it was the same animal lent by one retailer to the other for the purpose of defence.—Dr. E. F. Willoughby remarked that all discussion and evidence in the courts and elsewhere turned on the question of the possible injury to health through the ingestion of single large doses, or the habitual use of small doses, of the preservative, but in his opinion the question of the possible presence of ptomaines in the partially preserved milk was a matter of greater importance.—The President, Mr. J. Tubb-Thomas, and many others also took part in the discussion.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this institution was held on Jan. 7th, Mr. Rushton Parker, the President, being in the chair.—Dr. A. S. F. Grünbaum showed an experiment to demonstrate the hæmolytic action of Radium Rays on Red Blood Corpuscles.—Dr. R. Stenhouse Williams exhibited and described a new ethyl chloride inhaler. When the anæsthetic was administered by his method the patient was under its influence in 50 seconds; the anæsthesia was maintained with ether. He had found it very useful in alcoholic subjects.—Mr. F. W. Bailey had noticed that patients frequently came out of the ethyl chloride anæsthesia before ether anæsthesia was induced.—Sir William M. Banks and the President also spoke.—Mr. R. C. Dun read notes of a case of Congenital Hydronephrosis due to stricture of the ureter at its junction with the renal pelvis. The chief point of interest lay in the fact that the abdominal tumour was principally on the left side and was not palpable in the right loin. The diagnosis of left hydronephrosis was made. On performing nephrectomy through an incision on the left side a normal left kidney and ureter were exposed. The tumour, which proved to be a hydronephrosis of the right kidney, lay in front of the left kidney and was readily removed. Recovery was uneventful. A congenital displacement of the right kidney, either to the middle line or into the loin of the opposite side, probably explained the abnormal position of the hydronephrosis.—Dr. W. Blair Bell and the President commented upon the case.—Mr. C. Thurstan Holland read a note on the X-Ray Diagnosis of Kidney Stones; he laid special stress on the necessity, in making a negative diagnosis, of taking the x ray whilst the breath was held; also the importance of obtaining a plate showing the differentiation of the shadows of the soft structures lying between the iliac crest and the lower ribs. The note was illustrated by a series of lantern-slides showing stones *in situ* and also the type of negative to be aimed at.—Dr. W. Carter, Dr. Charles J. Macalister, and Dr. W. Alexander spoke, and Mr. Holland replied.—Dr. A. Cassels Brown exhibited an old notebook containing notes on Dr. John Rutherford's clinical medical lectures delivered in Edinburgh 1749 and read a paper on the subject. After giving an account of Edinburgh, the medical school, and Dr. Rutherford, he referred to the total absence at that time of anything like scientific observation in medicine, but pointed out that the rate of mortality in Dr. Rutherford's wards was in the existing circumstances not at all a discreditable one. Dr. Cassels Brown gave details of the treatment adopted in cases of anæmia, rheumatism, ague, phthisis, syphilis, cardiac disease, and hydrophobia, and, in conclusion, remarked that while the medical profession had advanced scientifically to an enormous extent, it had not advanced equally in other directions. He suggested that more attention should be given to the teaching of practical therapeutics and advocated a modified return to the culture of the old-time physician.—The President, Sir William Banks, Dr. Grünbaum, and Dr. J. R. Logan spoke, and Dr. Cassels Brown replied.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—At a meeting of this society held on Jan. 7th Mr. S. T. Lord read a paper on Functional Nerve Troubles. Modern views of the nervous system recognised a conscious, a subconscious, and an unconscious mind. An important function of the unconscious mind was inhibition. In hysteria the inhibitory function was more or less in abeyance and hence a slight stimulus produced a fit. In neurasthenia there were two factors, diminished resistance, which was hereditary, and excessive strain. Everyone was more or less susceptible to the influence of suggestion, in fact, any so-called voluntary action might be looked upon as the resultant of a complex series of suggestions. How much more susceptible to this influence must those be whose nervous systems were weak or unstable. Cases were related illustrating functional nerve trouble. In all of them drugs had proved useless. A girl with hysterical knee joint was cured when treatment had been given up. A boy with a stiff and intensely tender elbow was perfectly well after being under chloroform and told that he was better. Cases of hysterical vomiting were cured, one by the threat of a thrashing, one by "passes" practised by a quack, and another by the suggestion of rectal feeding. A boy subject to cataleptic fits had them averted by a box on the ear from a friend. A neurotic mother had a son and twin daughters all subject to hysterical vomiting and the daughters also developed occasionally an ulceration of the lining of the mouth, most probably due to some obscure nervous cause. A young man suffered from retention of urine after seeing his father catheterised for this condition. A catheter was passed and drew off two drachms of urine (Dr. A. Lomas's case).—Dr. A. Wallace, Dr. J. A. Menzies, and Mr. H. H. I. Hitchon joined in the discussion on the paper.

THERAPEUTICAL SOCIETY.—A meeting of this society was held on Dec. 22nd, 1903, Dr. Clarence Cooper, Master of the Apothecaries' Society, being in the chair.—Dr. W. E. Dixon read a paper in which he described the Action of Drugs on the Pulmonary Vessels. He showed that these vessels had no nerve-supply, so that drugs which contracted ordinary systemic vessels did not affect those of the lungs. He divided the drugs into three groups, the first of which included pilocarpine, adrenalin, physostigmine, and digitalis, which acted on peripheral nerve endings and produced marked contraction in systemic vessels but had no action on pulmonary vessels. The second group consisted of substances, such as barium and calcium salts and veratrine, which acted directly on the muscles and produced contraction not only in the systemic but also in the pulmonary vessels. The third group consisted of substances such as the nitrites and caffeine, which caused vaso-dilatation and acted not only on the systemic vessels but also on those of the lungs and must therefore affect directly the muscular tissues of the vessels. In conclusion Dr. Dixon explained how such substances as digitalis and adrenalin gave rise to marked pulmonary congestion.—Dr. H. Sainsbury, Dr. F. de Havil and Hall, and Mr. E. D. Vinrace took part in the discussion.—Mr. Vinrace read a paper entitled "A Plea for the

More Thorough Study of Therapeutics." He said that little attention was now paid by medical students to therapeutics which in examinations had not the same importance as pathology or bacteriology. Young practitioners were therefore not so well qualified as they might be to treat minor ailments; the sufferer accordingly often sought advice from a druggist and finding relief continued to consult him in more serious diseases. Unfortunately, also, medical practitioners had in many cases given up dispensing their own medicines and even the art of writing prescriptions was on the wane, as many medical men now depended on the wholesale druggists for the supply of remedies ready prepared for use which the patient might afterwards obtain for himself in other ailments, whether similar or not, without consulting a medical man, thereby running great risks.

Reviews and Notices of Books.

Doctors and their Work; or, Medicine, Quackery, and Disease. By ROBERT BRUDENELL CARTER F.R.C.S. Eng., Knight of Justice of the Order of the Hospital of St. John of Jerusalem in England and Consulting Ophthalmic Surgeon to St. George's Hospital and to the National Hospital for the Paralysed and Epileptic. London: Smith, Elder, and Co. Pp. 316. Price 6s.

Mr. Brudenell Carter's aim in taking up his pen has been, as he indicates in his preface, to bring about a better understanding of medical objects and methods than now commonly prevails and to show patients in which way they can co-operate with their physicians for the relief of suffering and the prolongation of life. His intentions have resulted in a thoroughly good and interesting book and we have great pleasure in commending it to all our readers. We hope also that it may have the wider circulation outside the medical profession for which its author destines it, for a perusal of its contents will enable thoughtful members of the public to appreciate the difficulties and the responsibilities of the *vita medica* in a manner that, alas, few of them now do. Mr. Carter is a man of wide experience and strong views, and his habit of clear and exact writing enables him to place his knowledge and opinions in an uncompromising manner before his public. No one can misunderstand a word of what he writes, while the personal note of the book is struck on the title page by the adoption of Montaigne's well-known motto "*J'ay faict ce que j'ay voulu: tout le monde me reconnoit en mon livre, et mon livre en moi.*" It is possible that some who have considered the various social and ethical problems presenting themselves as incidents in our professional life will not agree with Mr. Carter in every detail, but in general we think that all medical men will find themselves in accord with one whose sense of the dignity of medicine is so marked, and whose moderation and fairness are in evidence throughout, however vigorous he may be in adopting an individual line.

A brief introductory chapter traces the history of the medical profession in England and shows incidentally that the troubles connected with the title of "Dr." were existent half a century ago, as they are now. From these troubles, acting of course simultaneously with other and more obvious factors, arose the movement for the reformation of the medical profession which culminated in the Medical Act of 1858. Previously to the passing of that Act in England the style of M.D. was to a great extent reserved for doctors of medicine of the Universities of Oxford and Cambridge whose intention it was to practise as consultant physicians; but in Scotland and Ireland, where the medical graduates had no legal status for practice in England, the title of "Dr." was earned and used by general practitioners. It became, therefore, the habit of certain English practitioners to acquire the degrees of Irish and Scotch, especially of Scotch, universities, and in those days such degrees were sometimes to be obtained with regrettable facility. The Scotch M.D.'s would then reappear in England with the style which in England was regarded as a hall-mark of the consultant physician, although there was nothing in their professional career which marked them as different from the holders of the diplomas of the English corporations. Obviously only a general standard of medical education for all the medical men of the kingdom could remedy an abuse which tended towards down-grade competition among educational bodies, and to enforce such a standard was a powerful reason for the constitution of the General Medical Council which came into being on the passage of the first Medical Act. Of the other causes which led to the passing of the Act under which, with but minor modifications, we at the present day pursue our professional calling, Mr. Carter does not say much, while the actual condition of medical education as it to-day exists under that Act, and the supplementary Act of 1886, he regards without enthusiasm. For many years representative of the Society of Apothecaries of London upon the General Medical Council he has had first-hand chances for forming an opinion upon the subject, and it is clear that he would have the preliminary education of the medical student considerably modified. The early training of the medical student, especially of the London medical student, whose academic opportunities are as poor as his clinical opportunities are rich, is at the present moment giving serious concern to the General Medical Council, to the authorities of the University of London, and to the teaching staffs of all the big hospitals. Neither the public nor the medical profession ought to continue ignorant of the questions at issue and in Mr. Carter's book they will find, not only in the introduction but in every chapter, information germane to the subject.

Two excellent practical chapters are headed "Reasons for Success and Reasons for Failure in the Medical Profession." Mr. Carter inevitably quotes Sir James Paget's well-known inquiry into the after careers of a thousand students at St. Bartholomew's Hospital, and by closely analysing the figures of the famous surgeon and teacher comes to the conclusion that the medical profession offers as fair a chance of what is generally considered professional success as any other calling. But he goes on to point out as a singular fact in sociology that the mental attitude of the public towards medicine is credulous and superstitious, very much in fact resembling the attitude of the professors of medicine themselves towards their art 300 years ago. In a humorous and caustic chapter he shows that the public at large have not grown intellectually with their medical men in their conception of the aims and powers of the healing art. The half-education of to-day leads many to quote with facility what are mere nursery axioms in respect of disease and, alas, leads them to expect from their medical advisers some kind of endorsement of the obsolete lore. Many patients are still pleased to hear that their cataracts are not "ripe" for treatment or that their headaches are "latent gout"; the man who knows that his "blood is heated" or that he is suffering from "liver depression" is still quite common in our consulting rooms. He is urgent in demanding that something should be given him for the condition, and the course thereupon to be adopted by the honest practitioner towards him is a difficult one. "The patient whose chief desire it is to recover from his malady," writes Mr. Carter, "and who as a means of attaining that primary object desires to do all that is within his power to contribute towards its attainment, will usually act wisely if he abstains to seek popular explanation of physiological doctrine, and is content to submit himself resignedly into the hands of the doctor whom he has selected, and in whom he has confidence, and to do and avoid what he is told to do or to avoid without disturbing his mind as regards either nomenclature or causes." Quite so, but this

excellent class of patient is in daily practice counterbalanced by the other class that desires to be treated according to its folly. It is not possible to lay down any general rule for the guidance of the medical practitioner and Mr. Carter does not attempt to do so. He contents himself with giving a clear account of how and why the position arises.

We need give no further detailed account of "Doctors and their Work." Under the head of "Medical Grievances" we find a spirited appeal to medical men not to class themselves as tradesmen. Mr. Carter's contempt for the "eminent doctor" whose fame is established in the boudoir or by the society journal and his appreciation of the mental deficiencies of "anti's" make excellent reading, and he tells the story of "medical etiquette" in a dozen pages of common sense. We commend the book heartily to our readers and we hope that the public will also study it. In a leading article at the beginning of the new year we urged that the aims of the profession and the public were broadly the same, and that apparent antagonism would often cease if the laity were better instructed upon professional matters. From this point of view Mr. Carter's book is very opportune. His design in writing it has been to assist a *rapprochement* between the medical man and his patient upon grounds of mutual esteem, and his method of execution is well calculated to bring about his commendable object.

The Standard Medical Directory of North America 1903–1904. Chicago: G. P. Engelhard and Co. Pp. 1226. Quarto.

THIS medical directory of North America includes not only the names of practitioners in the United States of America, whether in civil practice or employed as officers in the United States army or navy, but also the names of all practitioners in Canada, Cuba, Mexico, and Central America. Full information is given in addition concerning the medical laws and the constitution of any governing bodies of the profession in the different countries; there are accounts of medical societies and medical educational bodies, classified lists of medical books and periodicals, and notes upon various hospitals and sanatoriums. It will be gathered from this that the work is an enormous book of reference and it must have entailed much and serious labour upon its compilers.

The list of medical colleges of North America shows that those responsible for this directory are not scrupulous to apply the word "medical" only to studies that are scientifically medical. Eclectic and homœopathic educational centres are set down as places where medical education can be obtained. This uncritical attitude is more or less forced upon the producers of an American medical directory, as it is clear that any one having a legal status upon which to practise has a right to insist that his name should appear in what must be regarded as a semi-official list of members of the medical profession. In England we see the names of members of the medical profession upon the Medical Register who do not practise in accordance with the scientific teaching and system under which they obtained their qualifications. It is true that in America, apparently, examinations are recognised by certain States which are conducted upon eclectic or homœopathic methods, whereas in this country the standard of medical education exacted by the General Medical Council compels every medical student to be instructed up to a certain point in scientific medicine. Nothing, however, prevents a man, after his qualifications in scientific medicine have gained him a place on the Medical Register, from becoming a homœopath, so that our Medical Register is no more pure of heretics than is the North American Directory, although the presence of dissentient names has a different explanation.

The bulk of the book is, of course, taken up by the names and addresses of the medical men in North America. Upwards of 1000 quarto pages are filled with the names arranged in four columns of tiny print. The names are first entered under addresses in the United States; then come the Central American States and Cuba; and then the Dominion of Canada. In the next section all these names are entered alphabetically, having placed against them their addresses. A great deal of space is saved in giving the qualifications by using an elaborate system of abbreviations. For instance, we find a gentleman in the alphabetical index entered as, say, Smith, J. H., Palo Alto, California. We turn up the place and find Smith, J. H., Ont. 5, '92. We then look up Ont. 5, which signifies the fifth in the list of the medical centres of Ontario and thus ascertain what are the qualifications of Mr. J. H. Smith to practise, '92 signifying that these were obtained in 1892. A weary repetition of similar titles appended after thousands of names is by this simple plan rendered needless. We have said enough to show that we consider the "Standard Medical Directory of North America" a thoroughly useful and carefully prepared book of reference. We hope that the great American public, so devoted to quackery and all forms of irregular medical practice, will get into the way of consulting the directory before consulting the individual. There is nothing over discriminating about the directory, as we have indicated, and if a physician's name is not found in its generous pages he should not be called in.

LIBRARY TABLE.

Cancer and Pre-cancerous Changes: their Origin and Treatment. By G. H. FINK, M.R.C.S. Eng., L.S.A. Lond., Major, Indian Medical Service (retired). London: H. K. Lewis. 1903. Pp. 105.—This book is intended to assist in the investigations at present in progress into the origin of malignant disease and its treatment, both preventive and remedial. The author discusses all the main theories hitherto advanced to account for the origin of cancer. He then enters on a thorough investigation of the life-history of many animal and vegetable parasites and, as he has read very widely, this portion of the work is of great interest. The conclusions at which he arrives are that there are many points of resemblance between cancer and malaria, though the former is more prevalent in temperate climates and the latter in tropical regions, therefore he is inclined to look upon cancer as parasitic in origin. The author, however, lays great stress on the necessity for predisposing factors in the body of the host. The treatment advocated naturally follows the lines suggested by the theory of causation advanced. For the prevention of cancer a simple healthy life without excess of diet will tend to prevent any predisposition; the surroundings should be healthy and as the author considers it probable that the "germ" may be conveyed by an insect he advises that flies and other insects should be excluded from dwellings. Great care should also be bestowed on the water supply and the water should be boiled or filtered before use. The treatment after the appearance of the disease consists in attention to the *primæ viæ* and care as to food and perhaps the employment of sera from cases of rodent ulcer and lymphadenomata. The book is evidently the outcome of much thought and deserves consideration.

Diseases of the Skin: an Outline of the Principles and Practice of Dermatology. By MALCOLM MORRIS, Consulting Surgeon to the Skin Department, St. Mary's Hospital, London, &c. With two Coloured Plates and 58 Plain Figures. New edition. London, Paris, New York, and Melbourne:

Cassell and Company. 1903. Pp. 642. Price 10s 6d. net.—Ten years have elapsed since the appearance of the first edition of this well known text-book and we extend a cordial welcome to this issue. Of the smaller manuals of dermatology this is probably the most suitable for general use, for it is sufficiently full for the purposes of the average student and practitioner and yet its bulk has not been needlessly increased by the inclusion of details which are of interest to the expert only. In such a subject as dermatology, pervaded as it is with questions still undecided, there is an abundance of material for differences of opinion and there are many points on which we might join issue with Mr. Malcolm Morris but we must acknowledge that the views put forward in this work are, on the whole, those generally accepted. There are numerous illustrations and most of them show clearly what they are intended to represent.

The Royal London Ophthalmic Hospital Reports. Edited by WILLIAM LANG, F.R.C.S. Eng. Vol. XV., Part 4. October, 1903. London: J. and A. Churchill.—The contents of this part of the Royal London Ophthalmic Hospital Reports are as follows: 1. Some remarks on the Use of Mallory's Phosphotungstic Acid Hæmatoxylin and a note on the Musculus Papillæ Optici of Nicolai, by F. H. Verhoeff, M.D., pathologist to the Massachusetts Charitable Eye and Ear Infirmary, Boston, U.S.A. Details are given of the action of Mallory's and Zenker's fluids and of formaldehyde and nitric acid with thorough washing with water. The author denies the existence of Nicolai's muscle, believing the supposed smooth muscle cells to be really neuroglia elements. He gives a plate in which are drawings illustrative of his own views. In an appendix to the above article he describes a hitherto overlooked membrane of the eye. This is a fenestrated membrane situated in the pigment layer of the retina, identical in structure and staining reactions with the membrana limitans externa. The rods and cones are not, in his opinion, nervous elements but modified ependymal cells. 2. Observations on Renal Retinitis, by E. Nettleship, F.R.C.S. Eng. This is a record of the results of the observation and post-mortem examination of many cases of retinitis. Mr. Nettleship states that the microscopic features and micro-chemical reactions of the brilliant white spots seen on the retina show that they are not, as has been generally accepted, fatty exudations, but that they are either amorphous or composed of a fine fibrinous network. 3. Epithelial Plaques of the Conjunctiva, by W. T. Lister, F.R.C.S. Eng., and W. Ibbert Hancock, F.R.C.S. Eng. These growths are rare. Examination under the microscope in four instances showed that the growth consisted of a mass of epithelial cells and was nearly avascular. 4. A Pathological Report on a case of Mooren's Ulcer of the Cornea, by W. T. Lister, F.R.C.S. Eng. 5. Two cases of Pigmentation of the Retina, by E. Erskine Henderson, F.R.C.S. Eng., with a plate. 6. A case of Orbital Wound in which the Optic Nerve and Central Retinal Vessels were divided, by J. Herbert Parsons, F.R.C.S. Eng., curator of the Royal London Ophthalmic Hospital Museum, with a plate: also (7) by the same observer a case of Epithelial Hyperplasia of a Ciliary Process. 8. Acute Dacryoadenitis, by William S. Inman, M.B. Lond., senior house surgeon, Royal London Ophthalmic Hospital. Dr. Inman reports ten cases as having occurred amongst the patients of the hospital in two years and refers to the literature of the disease. He draws the conclusion that the cases may be arranged in two groups, those associated with mumps which are usually bilateral and in which suppuration does not occur, and those not associated with mumps, in which the disease is usually unilateral and suppuration may or may not occur. This part contains the index to the fifteenth volume of the Reports.

FOURTH REPORT OF THE ROYAL COMMISSION ON SEWAGE DISPOSAL.[1]

POLLUTION OF TIDAL WATERS WITH SPECIAL REFERENCE TO THE CONTAMINATION OF SHELL-FISH.

THIS report, which consists of 54 pages, is a document of very far reaching import and its influence will be felt much beyond the limits to which it nominally applies. As we are discussing the general aspects of the problem in a leading article we shall confine ourselves in this place to a general *résumé* of the contents of the report. After their introductory remarks the Commissioners refer somewhat critically to

The Laws in regard to the Pollution of Tidal Waters.

Under this heading they show that although Section 17 of the Public Health Act, 1875, confers certain powers with regard to the prevention of the pollution of non-tidal waters its provisions have not hitherto been interpreted as applying to tidal waters, and very much the same remark may be made in respect of the provisions of the Rivers Pollution Act, 1876, which exempts tidal waters from its operations unless after inquiry by the Local Government Board any given tidal estuary is declared to be a "stream" within the meaning of the Act. As a matter of fact such a declaration has been but rarely made and the instances thereof could probably be counted on the fingers of one hand. Similarly, in regard to the Salmon Fisheries Acts of 1861 and 1862, it would seem that in order to take successful action under their provisions it is necessary to prove that "the pollution complained of has poisoned or killed fish," and an occurrence of this nature is a very different thing from the specific pollution of water by sewage. Lastly, it would appear that the Sea Fisheries Committees are unable to obtain any relief under the powers of their by-laws, since nothing in the Sea Fisheries Regulation Act, 1888, "shall authorise ..... a by-law affecting any powers of a sanitary or other local authority to discharge sewage in pursuance of any power given by a general or local Act of Parliament." The Commissioners raise the question as to whether the Board of Trade in taking the view that this proviso renders the by-laws inapplicable to the discharge of sewage by local authorities has correctly interpreted the law, but the Commissioners are nevertheless forced unwillingly to the conclusion that the statute does not in practice prohibit the discharge of polluting matters into tidal waters.

The Extent of the Mischief Caused by Polluted Shell fish.

With the view of obtaining assistance in their researches the Commissioners, through their secretary, Mr. F. J. Willis, despatched a circular letter to the county council of every county in England and Wales having any sea-board, and it is of interest in obvious directions to be able to narrate that of the 31 county councils thus addressed 21 had no evidence to offer on the questions raised. The remaining county councils sent copies of reports made by local medical officers of health or furnished other information which had been brought to their notice. Numerous witnesses representing public health, bacteriology, and the shell fish industry were examined and the Commissioners themselves visited oyster layings and mussel and cockle areas throughout the country. They also carried out most important scientific researches to which reference will be made subsequently. As regards the fact that enteric fever and other illnesses may be caused by the consumption of specifically polluted shell-fish the Commissioners express themselves as fully satisfied, and they refer particularly to the remarkable outburst of illness which followed the mayoral banquets at Winchester and Southampton as an illustration of the danger which the public run under the present uncontrolled conditions. In dealing with the proportion of enteric fever generally which may be attributed to the consumption of polluted shell-fish reference is made to the evidence of Dr. J. T. C. Nash of Southend who thinks that in Southend at least 50 per cent. of the cases in 1902 were due to this cause, of Dr. A. Newsholme who puts the proportion in Brighton between 1894-1902 at 37 per cent., of Dr. J. Niven who thinks that in Manchester an estimate of 10·3 per cent. understates the case, and of Mr. Shirley F. Murphy who inclines to the view that in 1902 the 8 per cent. of the enteric fever occurring in London which was associated with the eating of shell-fish at a time

[1] Fourth Report of the Commissioners appointed in 1898 to inquire and report what methods of treating and disposing of sewage may properly be adopted. Eyre and Spottiswoode, East Harding-street, Fleet street, E.C. Price 4½d.

consistent with the incubation period of the disease is probably an under-statement of such an association. As a result of all the evidence put before them under this head the Commissioners do not feel justified in making an estimate in regard to the country as a whole and herein they doubtless show their wisdom. They are, however, unanimous that the evil demands a remedy not only in relation to the interests of the public health but also in that of the shell-fish industry. Passing to the

Remedies Suggested,

the Commissioners in discussing the purification of sewage raise a question which is of the greatest importance to a proper understanding of the problem. They point out that in their interim report of July 12th, 1901, they drew attention to the fact that the effluents from sewage farms as well as effluents from artificial purification processes usually contain large numbers of micro-organisms, many of which appear to be of intestinal derivation. Their subsequent investigations have only tended to confirm this conclusion and they tell us that the microbe of green pus which was added to sewage in large numbers by Dr. A. C. Houston passed freely through sewage purification works consisting of (1) septic tank and contact bed; and (2) continuous filter about ten feet in depth. What, therefore, it comes to is that no known *practicable* means of sewage treatment suffices to get rid of pathogenic organisms and the sooner this fact is realised and appreciated the better will it be for a really scientific conception of the situation. But the Commissioners are, nevertheless, not without hope that some method of sewage treatment may be devised by which *within reasonable limits of cost* (herein is the crux of the situation) the dangerous qualities of sewage may be eliminated.

With respect to the seizure of unwholesome shell-fish the Commissioners agree with the evidence given by Dr. Newsholme that the existing provisions are practically useless for preventing the sale of contaminated shell-fish, and the prosecutions which have recently taken place in the City do not, unfortunately, alter the situation; indeed, they somewhat complicate it. They do so since, in the opinion of the Commissioners and as the result of the researches which they have made, they have been forced to the conclusion that bacteriology at present cannot be relied upon to determine whether oysters or other shell-fish are or are not polluted. Certain of the witnesses urged upon the Commissioners the desirability of ascertaining the distribution of the bacillus coli in the animal kingdom, as it seemed to them possible that further knowledge might invalidate the conclusion that "the normal oyster does not harbour within its shell or within its body bacillus coli communis or other B. coli closely allied to it," a basis upon which apparently oysters have in the past been condemned by those bacteriologists who believed that bacteriology could, apart from all other considerations, be relied upon as an index of pollution. In order to clear up this important point Dr. Houston examined a very large number of oysters procured from all sorts of layings around the coast and his researches revealed the eminently disturbing fact that in oysters taken from the various layings the number of bacilli coli or bacillus "coli-like" microbes varied in an oyster from 10 to 10,000, and it also appears, contrary to what has been formerly taught, that far more bacilli coli were found in the contents of the stomach than were found in the liquor contained between the shells. It is, however, very necessary to point out that, *taking in each instance the whole oyster*, a very much smaller number of bacilli coli or bacillus "coli-like" microbes is found in oysters stored in pure water than in oysters stored in polluted waters. But the Commissioners do not see their way to lay down any standard in the matter and they add very significantly, "If it should be seriously contended that the mere presence of bacillus coli or coli-like microbes in an oyster should condemn it few oysters would probably escape condemnation. This is a point to which we shall return, but we may at once state that we see no justification for such wholesale condemnation." They also direct attention to the eminently misleading conclusion which may be drawn from a chance sample of oysters or water.

With regard to the bacterial flora of sea and estuary waters numerous samples have been examined and it is most instructive to learn from Dr. Houston's work that of 34 samples of deep-sea water collected on the north-west coast of Scotland within sight of land but remote from pollution none contained bacillus "coli-like" microbes of any sort when using 100 cubic centimetres of water. The inference is that these microbes form no essential part of the bacterial flora at the surface of deep-sea waters at a distance from land and similar results and conclusions were obtained with bacillus enteritidis sporogenes. It has been contended by some that the deposit of the London sewage sludge in the Barrow Deep was causing grave evils and hence the statement that in Barrow Deep one half of the samples of water tested were not found to contain one bacillus coli per cubic centimetre will come somewhat as a surprise. This is a state of affairs which, we believe, is not excelled by the upper Thames in the vicinity of the intakes of the London drinking water.

In summing up their conclusions as to the bacteriological portion of their labours, and what these have really been can only be duly appreciated when the appendices containing the evidence and the record of the research work are issued, the Commissioners quote from the evidence of Dr. Klein to this effect: "Dr. Klein has repudiated the notion that shell-fish could be condemned solely on account of detection in them of the presence of B. coli. He said, 'I myself would not countenance this without the knowledge of the topographical conditions'; and again, 'I would not myself reject oysters as polluted with human sewage on account of the purely bacteriological examination.'" The Commissioners add: "We are aware that this view of the present limits of bacteriology as applied to shell-fish has not been uniformly acted upon, but we see no reason to doubt that it is in the main correct and that it should be accepted for the purpose of present administrative action." With regard to what may be called the "proportion" test concerning which we have heard much of late, the Commissioners state: "Mere numbers of B. coli or any other particular micro-organism of sewage cannot, therefore, be said to have anything approaching an exact value as an indicator of the danger of disease and we consider that before any working bacteriological standard can be applied to this problem further knowledge is necessary." We cannot spare more space for a consideration of this absorbing topic and we must conclude this notice with a brief reference to the recommendations of the Commission.

After discussing numerous alternative proposals the Commissioners state that after carefully considering the whole of the evidence together with the teachings of their own researches and inspections the only way in which, in their opinion, the evil can be effectively dealt with is to place tidal waters under the jurisdiction of some competent authority. They propose to confer upon such authority power to prevent the taking of all forms of shell-fish for human consumption from any position in which they are liable to risk of dangerous contamination and to enforce restrictions as regards pollution of water, foreshores, pits, ponds, beds, and layings in which shell-fish are fattened and stored. Such control should, the Commissioners think, be exercised by the Rivers Boards the creation of which they recommended in their third report, and seeing that each river or estuary is, biologically speaking, a problem in itself it is necessary that such Rivers Boards should be fully equipped in a scientific sense to deal with the problems which will arise from time to time. The procedure to be adopted by this controlling authority is to consist of a survey of each district, of a registration of pits, ponds, beds, layings, and the like, and of a prohibition of certain prescribed areas as those from which no shell-fish of whatever nature may be collected for human consumption. The Rivers Boards are, too, to determine in what cases the treatment of sewage is likely to render the conditions safer; they are to control the construction of fresh sewer outfalls and oyster ponds and generally to supervise the sanitary condition of our estuaries. As regards foreign shell-fish the Commissioners advise that for the present a guarantee should be required on the part of each Government concerned "that all oysters or other shell-fish imported into this country for human consumption had been procured from localities where they were not liable to be contaminated by sewage or other objectionable filth" and they think that in addition the Government of each country exporting shell-fish to Great Britain should be requested to grant facilities to an accredited representative from the central authority presiding over the Rivers Boards in this country to inspect at intervals the layings, ponds, and other places from which shell-fish are exported into this country. Failing such guarantee and permission all foreign shell-fish for human consumption are to be deposited in registered layings or non-prohibited areas in this country for a period of not less than six weeks antecedent to their disposal on the market.

THE LANCET.

LONDON: SATURDAY, JANUARY 16, 1904.

The Control of Home and Foreign Shell-fish.

THE fourth report of the Royal Commission on Sewage Disposal, which we notice in some detail in another part of our present issue, has been drawn up by persons able to take both a scientific and a statesman-like view of the problem. From a purely scientific standpoint the report is remarkable in that for the first time in the history of bacteriology a check has been administered to that young and vigorous pursuit which will result in an improvement of its methods and in more guarded interpretation of its rapid unfolding of nature's story. It is fortunate for the real progress of bacteriology that Lord IDDESLEIGH'S Commission numbers amongst its members such men as Sir MICHAEL FOSTER, Mr. W. H. POWER, Sir WILLIAM RAMSAY, and Dr. J. B. RUSSELL of the Scotch Local Government Board, since they have by their investigations, in spite of the critical attitude to which we have alluded, been able to advance materially certain aspects of the bacteriology of shell-fish and of sea water.

The Commissioners have not unexpectedly come to the conclusion that a real danger exists from the consumption of oysters, mussels, or cockles procured from sources more or less obviously liable to pollution by sewage, and they have recognised that in addition to enteric fever a considerable amount of other illness, such as gastro enteritis, may be caused by such a diet. In setting themselves to devise a remedy for the existing state of affairs it was natural that they should have turned their attention in the first instance to that relatively modern science the application of which has been fraught with such blessings to humanity in the treatment and prevention of disease and in perfecting or improving our industrial processes. It was hoped that by bacteriology we might be able to recognise polluted or dangerous shell-fish and hence to fix standards which might guide and control administrative action. But, as the chemist in his domain has been unable to tell us with certainty of the dangers which beset our water-supplies, even so the bacteriologist has failed to prove a trustworthy guide in this particular department of biology. Hitherto the bacteriologist has in practice apparently acted on the assumption that "the normal oyster does not harbour within its shell or within its body bacillus coli communis or other B. coli allied to it" and hence he has inferred that the "presence" of the bacillus coli communis "in considerable numbers of oysters in a series of samples from a particular locality may be taken to indicate sewage pollution." But it was suggested to the Commissioners by Dr. H. T. BULSTRODE and Dr. J. C. THRESH that possibly the premiss upon which this inference was based might be usefully verified. Accordingly Dr. A. C. HOUSTON was instructed to make a thorough investigation into this subject and as the results of such researches it was found that "nearly all oysters so examined from whatever laying they were taken contained bacillus coli communis or other B. coli allied to it." It seems, indeed, that when a quantitative examination was made the number of bacillus coli or bacillus coli-like microbes varied in an oyster from 10–10,000, the number of the bacilli coli contained in the stomach being greater than that in the liquor contained in the shell. The Commissioners state that the investigation has been carried out by Dr. HOUSTON in the most careful manner and that more than 1000 oysters have been examined. It would seem, too, from the evidence of Dr. THRESH that cockles obtained from places far removed from any ascertainable source of pollution may contain the bacillus coli. There are, however, certain conclusions arrived at by Dr. HOUSTON which it would be obviously unfair to bacteriology to omit to mention and in fact the Commissioners draw special attention thereto. When the whole oyster is examined, a much smaller number of bacilli coli is found in oysters stored in pure water than in oysters stored in polluted waters, and, moreover, it seems probable that deep-sea oysters are free from either the bacillus coli or similar organisms. So, too, in regard to sea water it has to be recorded that no bacillus coli-like microbes of any sort, even in 100 cubic centimetres of water, were found in samples collected within sight of land on the north-west coast of Scotland. But the Commissioners have gone very thoroughly into the whole question and the conclusion to which they are forced by the researches of Dr. HOUSTON and Dr. E. J. MCWEENEY, and by other evidence is that they would "not be justified in recommending that the closing of a foreshore, laying, or pond should depend *as a matter of routine* on the results of bacteriological examination." And we must confess, unwilling as we are to accept the situation, that we fail to see how on the evidence they could possibly arrive at any other conclusion. They add, "if it should be seriously contended that the mere presence of B. coli or coli-like microbes in an oyster should condemn it few oysters would probably escape condemnation ..... we may at once state that we see no justification for such wholesale condemnation," and they quote Dr. E. E. KLEIN to the effect that "I could not myself reject oysters as polluted with human sewage on account of the purely bacteriological examination." The Commissioners are, however, not without hope that further research may enable bacteriology to prove of very material assistance.

Passing from this to other measures the Commissioners point out that, in the great majority of cases in which outbreaks of disease have been at all clearly traced to shell-fish, the foreshores, layings, or ponds from which the shell fish have been procured have been found to be so situated that the opportunities of pollution by sewage have been obvious; and they think that, although it is not at present possible to define with certainty the limits of the danger, if those places were closed or freed from chances of pollution the greater number of cases of disease due to the consumption of contaminated shell-fish would be eliminated. In their view the first step should be to deal with those foreshores, pits, ponds, beds, or layings of which the pollution is obvious and indisputable, and in this connexion the able cross-examination of Mr. SHIRLEY

MURPHY by Mr. T. J. STAFFORD, a member of the Commission, is well worth perusal. In discussing the authority by which the registration and the control of shell-fish layings should be administered, the Commissioners pass in review previous proposals and they finally arrive at the conclusion that the Rivers Boards, the creation of which they recommended in their third report, would prove by far the most suitable bodies not only in regard to administrative action but also with respect to the prosecution of the necessary scientific research. These boards would be under the supervision of a central board and they would have the right to prohibit the gathering or laying down of *any* shell-fish within such limits as they might from time to time prescribe. They would also have control over all estuaries within these large areas, each board probably comprising several counties, and would regulate all questions relative to the discharge and purification of sewage or other filth. These and other measures proposed by the Royal Commission are, in our view, framed with an earnest desire to put an end to the present unsatisfactory state of affairs without at the same time depriving thousands of persons in this and other countries of their habitual means of livelihood. The machinery suggested would obviously be capable of expansion with growing knowledge and experience, and the measures proposed would, if acted upon, put an end to public risk as well as to the depression in a valuable industry. If this chance is lost it may be years before any definite and comprehensive action is again possible. It is earnestly to be hoped that the shell-fish industry will unite with the public health service in a vigorous combined attempt to place the recommendations of this Commission upon the statute-book. If this is to be done in the ensuing session there is no time to be lost.

The Edinburgh Royal Infirmary: the Question of Superannuation.

AT the recent annual general meeting of the court of contributors of the Royal Infirmary of Edinburgh some very important principles were discussed and some resolutions were carried which are likely to create a great deal of friction. Our readers are referred to an article upon the matter from a correspondent which appears on p. 180, and in which no attempt is made to disguise the writer's views. The proceedings at the meeting opened with the usual annual report of the managers dealing with the number of patients treated, and with details of income and expenditure, and kindred subjects. It was then stated that the managers had introduced a new rule to the effect that the ordinary physicians and surgeons should retire in future on attaining the age of 65 years but that this rule should not be applied in the case of those members of the staff who were at present serving their second or third term of five years in charge of wards or to the professors of the University of Edinburgh. It could scarcely be expected that such a curious and partial alteration in existing regulations would be allowed to pass unchallenged, since, if compulsory retirement is desirable, such change should only affect those who undertake office under the new regulation. All who are already in office should be upon an equal footing and there would thus seem to be no reason for making any distinction between those who have been appointed during the last five years and those who are serving their second or third term of five years. Under former regulations members of the ordinary staff are only appointed to charge of wards for 15 years, and this rule was enforced, although in exceptional circumstances it might lead to retirement at a comparatively early age.

It will be noted that the new regulation, as drafted by the managers expressly exempted the professors from its operation, and in relation to these distinguished gentlemen it should be borne in mind that the staff of the Edinburgh Royal Infirmary is composed of members who may or may not have other teaching duties in the School of Medicine of the Royal Colleges of Edinburgh, and of certain professors of the University of Edinburgh who are nominated by the University as physicians and surgeons of the institution, and who are thus afforded facilities for giving clinical instruction in medicine and surgery. The discussion at the meeting turned mainly upon the proposed establishment of an age limit for the professors as well as for other members of the staff, and it is instructive to consider the arguments adduced by those who favoured and those who opposed the new proposal. In the first place it was definitely stated that it was not proposed to enforce the age limit upon the present professors but merely to establish a rule for future guidance. On grounds of efficiency it was urged broadly that a time came, even to the most skilful, when keenness of vision, delicacy of touch, and firmness of nerve gradually deteriorated, while there would also be inability to answer the emergency calls that might come at any hour of the night. Assuming the truth of the foregoing arguments one speaker said he felt a serious doubt as to whether there was anything exceptional in the case of the University professor which should exempt him from the rule which had been found necessary in the case of the ordinary physician and surgeon. With grave irony he presumed that the University professor was subject to the common rules of life and that old age grew on him as much as on any other man. Since the infirmary patients could not choose for themselves the medical men to whom they were going to intrust their lives and health it was felt by the managers that they had a public duty to perform in providing for efficient service. In spite of compliments paid to the present brilliant and distinguished body of professors, past experience afforded instances of some who had held their position in the Royal Infirmary beyond the age when they were completely qualified for work there. Against the proposal it was argued that the work of the University might be much hampered by this new regulation, that on other grounds the University might desire to appoint professors who would not be eligible to have wards in the infirmary, and that the area of selection of candidates for professorial chairs would be narrowed since candidates might be unwilling to come forward. Some speakers doubted the propriety of intimating to the University that any professor appointed with clinical teaching in the infirmary could only be accepted on the footing that he was to retire from those duties at the age of

65 years. In spite of all these arguments, and in spite of an amendment proposing to remit this question to the managers for further consideration and for report at the annual meeting in 1905, it was ultimately decided to establish the age limit of 65 years for all members of the staff with the exception of the present professors and of those ordinary members who are serving their second or third term of five years in charge of wards.

It must be admitted that the effect of this resolution is likely to produce curious results, since the Edinburgh Royal Infirmary thus criticises the action of the University and assumes the right to question the wisdom of its appointments, while it indirectly suggests the advisability of an age limit of service in the University as well as in the infirmary. There can be no doubt as to the injustice of the arbitrary distinctions made amongst the existing members of the staff of the infirmary. The new regulation should only apply to those who are appointed to office subsequently to its enactment, since those who have already been engaged in the work of the Royal Infirmary presumably undertook their arduous duties after full consideration of their prospects of advancement under existing regulations. It appears to be a breach of good faith to alter the terms of office which may have tempted them to endure the weary waiting in the out-patient room in the hope of ultimately succeeding to a reasonable period of ward work. There is, on the other hand, much to be said in favour of the establishment of an age limit of hospital service since it often affords an opportunity of graceful retirement when the demands of private work are impeding the due performance of hospital duties. In the interests of the patients in the hospital it might even be desirable that the age limit should be fixed somewhat earlier for surgeons than for physicians, since, while the former have been enduring considerable physical strain, the latter have been accumulating experience which renders their opinions valuable so long as they are able to retain their faculties and to maintain their interest in scientific progress. From a practical side, however, it will probably always be difficult to establish any such distinction between the two chief branches of professional work, and endless confusion might result from any attempt to differentiate between obstetric physicians and surgeons or those in charge of other special departments. Whether university professorships should be subject to age limitations is perhaps too difficult a question to determine, since it so largely depends upon the duties demanded. Many such appointments are regarded as posts of honour and reward for previous work rather than as involving routine comparable to that required from a lecturer in a medical school. With this estimate of university professorships an age limit would defeat the main object of their creation.

Slum Life in Birmingham.

THOSE who are only superficially acquainted with the problems of our great cities seem often to imagine that it is only in London that genuine slums occur. But the medical man and the sanitarian know well that Liverpool, Birmingham, and other great cities, as well as much smaller towns, can show areas worthy of entering into a disgraceful competition with the environment of "No. 5, John-street," areas of which the general public know nothing because they hear nothing, and of which they hear nothing because the *sacerrates* has been generally wanting. Concerning one of these slums some information has just been disseminated in the form of a little book by the gentleman who holds the cure of souls in what is known as the condemned area of Birmingham. Not for the first time in his present book[1] has Mr. BASS appealed to the public to turn their eyes upon the miseries in the midst of which he works, while the series of articles which appeared a few years ago in the *Birmingham Daily Gazette* revealed horrors which must have appeared inconceivable to those unversed in the annals of poverty and crime. A further pamphlet emanating from persons connected with the medical mission and alluded to in our Birmingham correspondence some months ago tells a very similar tale. Naturally, we may even say properly, both these productions were pitched in that somewhat high key which is necessary if the public attention is rapidly and certainly to be attracted but we doubt if, even so, they have had much effect. Broadly speaking, all that has been published about the slums of Birmingham was substantially accurate. This is proved by the sober words of an official report drawn up by Dr. ALFRED HILL who has just retired from the position of medical officer of health after 40 years of honourable service to the city of Birmingham. "The condemned area," he writes, "has a population of 2429. If the area allotted to dwellings only be taken into account the number of persons per acre is 272, as against 41 per acre for the whole city. As regards the mortality on the area, I find that in 1899 and 1900 the death-rate was 42·3 and 38·7 per 1000 respectively, giving a mean death-rate for the two years of 39·5. In the entire city the mean death-rate for the same period was 20 7 and in the entire wards of St. Mary's and Nechells—the two wards in which the area lies—it was 29·6 and 21 4 respectively." Further, he tells us that the houses in the condemned area smell offensively, are badly roofed, old, dark, filthy, and in vile repair; that their privy accommodation is detestable and that they stand in unpaved courts. Of the 589 houses in the area 295 are back houses which open into inclosed courts, 250 of these 295 are approached by narrow tunnel entries so that there is practically no circulation of air around them, most of them are back-to-back with others, and 124 of the 294 front houses have no back-doors, so that these too have no proper ventilation. It is not surprising that Dr. HILL reports the area in question "an unhealthy area" and declares that "the evils connected with such houses and courts cannot be effectually remedied otherwise than by an improvement scheme for the rearrangement and reconstruction of some of the houses within the area."

Of the nature of the social disease thus made apparent there can be little doubt. It is a case where the diagnosis presents no difficulty but where the treatment to be resorted to is not to be decided upon easily or without forethought. The housing committee of the corporation of Birmingham has had the matter under consideration for a long time and has reported against the erection of municipal dwellings and in favour of opening up the courts so as to allow a little

[1] Hope in Shadow Land. By T. J. Bass. Birmingham and Leicester: Midland Educational Co. Pp. 158. Price 1s. net.

air to enter their noisome recesses. Mr. BASS thinks the proposals made are wholly inadequate; he points out that the back-to-back houses are for the most part to be left untouched and that the pulling down of a house or two at the end of a court, though it may provide an air space and be of great service to the police in their work of supervision, does not do much to make the interior of the houses which are left more healthy than they were. Also, he points out that there are 6000 courts in Birmingham, that it is estimated that the expense of opening each of these up in the manner proposed will be about £100, and that consequently if only one in four is opened up the cost to the municipality will be £150,000 and at the end they will not possess a single rood of ground or shred of building to show for their expenditure. Moreover, it is pointed out that 100 courts have been dealt with in two years, at which rate of progress it will take 120 years to put all the courts in the city into the state suggested by the housing committee. All this is no doubt very true but this is a case where criticism is easy. Mr. BASS, from his point of view, is perfectly right to declaim against the present state of affairs and to denounce the corporation for what he considers to be its supine attitude in face of undoubted and terrible facts. But Mr. BASS'S is not the only point of view from which the question—perhaps the most complicated question now before the municipalities of this country—has to be considered. In the first place there is the point of view of the landlord who claims, and with justice it must be said quite properly claims, that a great deal of the filth and insanitariness of the slum house is due to the conduct of its inhabitants. We are told of skirting-boards pulled down and banisters torn out for the purposes of making fires, of acts of carelessness and worse, all tending to make what was originally bad seven times worse than it was at first. Then there is this further point to be considered, that as soon as the landlord is compelled to improve his property and to spend money in so doing he endeavours to recoup himself by raising the rent. In this way he drives out the really necessitous person to make room for someone who is prepared to pay the higher charge, in which case the poorer man has to huddle into some other already overcrowded slum, or he compels the accumulation of two families in a house which formerly only held one. Mr. BASS would say that in such cases municipalities should acquire the land and build on it proper dwellings for the poor. It is not long since our Birmingham correspondent gave at length the reasons which actuated the housing committee of that city in refusing to take this step and the question of compensation for the landlords alone makes it a very difficult course. Moreover, the corporation would have to make a rigorous inquisition into the circumstances of each case that they might only admit to their dwellings the deserving poor, while criticism would not be wanting to point out that a certain number of wage-paying employers were having servants secured for them at a lower rate at the expense of the ratepayers.

If the houses are to be built by the municipality they cannot be built, as municipal houses must be built, to pay their expenses at the rents which the very poor can afford to pay for them, when the expense of the ground is taken into consideration. Again, when a municipality enters upon a task of this kind all private efforts in the same direction come to an end. Now the exposure of the facts in Birmingham has at least led to the starting of two separate plans, on commercial lines, both of which we have described in our columns, the Rowton House and "Homes, Limited." The corporation is quite entitled to wait in order to see what effect these will have before embarking on a huge and costly scheme of clearance and rebuilding. With much that Mr. BASS says in his book we are in the most complete sympathy. We fully agree with him that to say, "Oh, it is all drink," or "It is the innate filthiness of the classes who inhabit these houses," does not justify the shelving of an enormously urgent social question. Drink may often be an effect just as much as a cause and when we see the places in which many of the poor live we cease to wonder that they seek relief from their misery and discomfort in the warm and cheerful gin-palace. Medical men are bound to endorse Mr. BASS'S action in calling attention to the horrors amongst which he lives. Only by such plain speaking as he has employed can the public be aroused from their apathy. Medical men know of the existence of similar plague spots in most of our large cities but it is the experience of all sanitarians that until the time of epidemic arrives little attention is paid to these foci of disease and crime. They are regarded as inevitable products of the social scheme: they are shuddered at and forgotten. We believe that the conscience of Birmingham is fully aroused. The problem is pressing. But to rush suddenly into a huge scheme without careful consideration would be a counsel of despair rather than of wisdom.

The Report of the Medical Officer of Health of the County of London.

WE have received the annual report of the medical officer of health of the county of London for the year 1902, which has been presented to the London County Council by the Public Health Committee, this being the eleventh annual report made by Mr. SHIRLEY MURPHY. As usual, the report bristles with figures, and also as usual, when we have Mr. SHIRLEY MURPHY'S work to deal with, the figures are thoroughly explained, while many of the more important statistical points are accentuated and made easy of comprehension by charts and diagrams. At the first glance the reader may wonder why the report just issued should be dealing with 1902 and not 1903, but in our opinion no serious charge of procrastination can be made. The enormous population under the care of the London County Council, the magnitude of the questions in public health that are presented, and the careful manner in which the course pursued by the central health authority of the county is explained, sufficiently account for the delay. Such a report as the one before us cannot be prepared until the year with which it deals is completed. So that the mass of material which Mr. SHIRLEY MURPHY had to sift and to codify could not be in his hands until late in 1903 and it might well take him the rest of that year to deal with it. The result is to place at the

disposal of the London County Council a large book containing tables and diagrams involving an immense amount of work in their preparation. We point all this out because the accusation of dilatoriness is easily made, while the advantage of time, by which fulness, accuracy, and clearness are secured, is not so generally perceived.

We shall, as usual, deal with the report in a short series of articles drawing attention to the prominent lessons contained in it. For the public health of London may be looked upon as a type of the public health of any urban community in England, and, indeed, of most urban communities where attempts are made to regulate life in accordance with modern sanitary requirements. We have in London all sorts and conditions of persons to deal with, while types are to be found of every kind of town. The splendidly built houses of the rich standing round open squares, looking out on large parks, and flanking broad streets, are in many districts in contiguity with overcrowded slums, ancient mews, and open-air markets. There is a riverside population with all the squalid environment of a busy port. There is a commercial, an industrial, and an artisan population, and large districts of London are monopolised by one or the other. Stretching into the suburbs the same acute differences obtain. The amenities of life in Hampstead differ as much from those in Haggerston as the standard of luxury in Lambeth varies from that in Grosvenor-square. Every sort of administrative sanitary problem at some time or other during the year is consequently placed before the Public Health Committee of the London County Council to be submitted to its medical officer of health, and in his report Mr. SHIRLEY MURPHY has made piquant uses of such opportunities of contrast. The London death-rate from all causes per 1000 living was only 17·2 during 1902, the lowest figure ever recorded except that for 1901, which was 17·1. The factors which contributed to this decrease in death-rate are well shown in the diagrams, and the influence of the decrease in infant mortality will be observed with pleasure. Too much stress, however, cannot be laid upon the better chances that infants apparently enjoyed during the year in question, as the figure for infant mortality is largely dependent upon the prevalence of infantile diarrhœa. When infantile diarrhœa has been rife infant mortality mounts, and it is no exaggeration to say that one of the greatest tasks at the present time before a medical officer of health of any large urban community is the control of infantile diarrhœa. Some interesting observations with regard to the death-rate will be found in Mr. SHIRLEY MURPHY'S comparisons of life expectation in Hampstead and in Southwark, those being the two districts that he has arbitrarily selected to represent the situation of the homes of the well-to-do and that of the homes of the poor. In Hampstead the expectation of life at birth is in the case of males 50·8 years and in the case of females 56·6 years, while in Southwark the corresponding figures are 36·5 and 40·7 years respectively. In the same section of his report—i.e., where comparison is being instituted between the incidence of mortality upon the well-to-do and upon the poor—Mr. SHIRLEY MURPHY interpolates an interesting little quotation from Dr FARR'S life tables. He finds that taking Hampstead as 100, the comparative expectation of life at birth in Southwark is now 72, while in St. George's Hanover-square in 1841, according to Dr. FARR, the expectation of life was only 74. It would not be fair to deduce from this that the inhabitants of Southwark to-day in every circumstance of occupation and environment are as well off as the inhabitants of St. George's Hanover-square were 60 years ago, but short of this deduction it is obvious that the conditions of life in the poorer districts of the metropolis have enormously improved during the indicated period. The story, in spite of many hitches and in spite of vested abuses, is one of progress.

The year 1902 witnessed, of course, a serious epidemic of small-pox. We do not want to minimise the importance of that epidemic, the risks to the community, or the expenses to which the various boroughs were put, but we cannot refrain from pointing out that in 1902 1314 lives only were lost out of a population of 4,579,110. Mr. SHIRLEY MURPHY'S plan, showing the comparative death-rates for small-pox for the years 1841 to 1902, indicates that in 1902 the deaths from small-pox were relatively few as compared with those which occurred in times of epidemic prevalence of former years. We have no doubt whatever that the fact that the death-rate was so low depended on the administrative measures adopted for the limitation of the spread, and was in particular due to the removal of the small-pox hospitals outside London the result of the work of Mr. W. H. POWER, the principal medical officer of the Local Government Board. It is true that in their new situations they acted as centres to some extent for the convection of the disease but the benefit to London has been immense. In our subsequent articles we shall have more to say concerning this epidemic and the methods by which it was arrested at the instance of the health authorities.

Annotations.

"Ne quid nimis."

THE LANCET RELIEF FUND.

THE annual report of the almoners of this Fund appears on p. and 178 form a of application for relief under the Fund is included in our present issue, and will be found to be readily detachable for use in case of need. These two documents contain the conditions subject to which distribution of the Fund is made and it will prevent possible disappointment on the part of applicants if they are carefully studied and if the object for which the Fund has been instituted and has been carried on for 15 years is clearly understood: this is the affording of immediate pecuniary help to registered medical practitioners or to their recently bereaved dependents in cases of sudden distress and emergency but not in cases where the need is chronic. The value of such aid, when it is both timely and prompt, will readily be appreciated and the promptitude with which THE LANCET Relief Fund is made available by the almoners will be judged from the statement that cases are not infrequently considered and assistance is granted on the day on which the application is received. Upon occasions of bereavement where, in addition to the grief inseparable from such calamity there is the crushing sense of helpless poverty, the relief thus afforded may, it is hoped, be of no

THE LANCET RELIEF FUND.

For Members of the Medical Profession and their Widows and Orphans when in Distress.

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ALMONERS.

THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE PRESIDENT OF THE GENERAL MEDICAL COUNCIL.

THOMAS WAKLEY, F.R.C.S. Eng.

THOMAS WAKLEY, Jun., L.R.C.P. Lond.

HON. AUDITOR.

SIR HENRY PITMAN, M.D. Camb., F.R.C.P.

——:o:——

THIS FUND will be provided year by year in the month of January to the amount of at least £300 solely by the Proprietors of THE LANCET, and administered free of cost, for the purpose of affording immediate pecuniary assistance to Medical Men, or their Widows and Orphans, *in cases of Acute Distress and Emergency*, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require.

Applicants must satisfy the Almoners of the Fund that they are qualified under the following regulation:—

* "The recipients shall be such persons as satisfy the Almoners that they possess one or other of the following qualifications—that is to say: (*a*) That the applicant holds a registered medical qualification, and that he has fallen into pressing need of immediate pecuniary relief; or (*b*) That they are persons who have been, previously to the date of application, legitimately dependent upon some person holding a registered medical qualification, and that they have pressing need of immediate pecuniary relief."

(*In the case of Widows and Orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.*)

To ensure the utmost despatch, the "Application Form" upon the other side should be filled up and forwarded (in an envelope superscribed "THE LANCET Relief Fund") to the Secretary, Mr. CHARLES GOOD, THE LANCET Offices, Strand, London, W.C.

The application *must* be accompanied by two separate Testimonials (originals, not copies)—one from the Clergyman of the Parish or other resident Minister of religion, and one from a registered Medical Practitioner. Each Testimonial *must* state—(1) that the application addressed to the Almoners has been read; (2) how long the writer has known the applicant; (3) that the writer believes the statements made by the applicant to be perfectly truthful, and such as may be acted upon without further inquiry; and (4) *may* state any other particulars that the writer desires to place before the Almoners.

Testimonials written for the Almoners of the Fund will in no case be returned.

Private and Confidential.

APPLICATION FORM.

To the Almoners of The Lancet Relief Fund.

The applicant should here state shortly:—

1. The nature of the emergency that has arisen.

   (*In the case of Widows and Orphans the full names and date of death of the Husband or Father must be given.*)

2. The circumstances out of which it has arisen.

3. The amount of the grant desired, and whether by way of loan (free of interest) or of gift.

4. If by way of loan, state when the loan will be repaid; and from what source the funds to repay it are expected to be forthcoming.

5. Whether the applicant is entitled or able in the circumstances which have arisen to look to any other source of assistance; and if so, what is the expected nature and extent of such assistance.

6. Whether the applicant is receiving, or has received during the past six months, pecuniary aid from any Medical Charity.

7. State how the applicant is qualified to receive assistance; vide regulation * on first page.

8. Particulars of:

Applicant's age

Number in family

How many are self-supporting

How many are partially dependent

How many wholly dependent

Applicant's Signature

Address

Date

*No.*_____

THE LANCET RELIEF FUND

Name _____

Address _____

_____

Received _____

Considered _____

Result _____

Date _____

insignificant order. The report for the year 1903 contains no remarkable features, although in various matters of detail it differs from the one which preceded it. There were in 1903 only three more applications for relief than in 1902, but a much larger proportion of these complied with the conditions laid down, so that gifts of money were alloted in 33 instances as against 24 in the preceding year; one payment voted in 1902 was made, and whereas there were no loans in 1902 four, amounting to £76 14*s.* 6*d.*, were sanctioned in 1903. Beyond this the statement of accounts and report speak for themselves and it is again our privilege to thank those who have aided us in distributing the Fund so as to make it an effective aid to those intimately connected with the medical profession in times of sudden and urgent necessity. The names of those to whom we would thus acknowledge our indebtedness are the same as last year with the exception that Mr. John Tweedy having succeeded Sir Henry G. Howse as President of the Royal College of Surgeons of England has thereby become an almoner and we thank him for having kindly consented to undertake the duties. With him are associated Sir William Selby Church, Bart., K.C.B., President of the Royal College of Physicians of London, and Sir William Turner, K.C.B., President of the General Medical Council; whilst Sir Henry Pitman, for many years Registrar of the Royal College of Physicians of London, is so good as to continue to act as honorary auditor. Again directing the attention of those who may be either seeking or assisting to procure the help offered, we desire to point out that all applications should be made on the prescribed form and addressed to the Secretary of THE LANCET Relief Fund, 423, Strand, London, W.C.

THE PRESERVATION OF ANTIQUITIES FROM FIRE.

IT would appear that an unusual number of fires, to say nothing of the terrible catastrophe at Chicago, have taken place of late. Country mansions, factories, inns, and various other structures attest the ubiquity of the so-called destroying element. In Worcestershire we regret to notice that Sir Edmund Lechmere has suffered another serious loss, his residence at Hanley Castle being destroyed. This gentleman was the owner of "Severn End" in the same county, a historic mansion immortalised by Harrison Ainsworth, which was almost totally destroyed some years ago. This house, which was one of the oldest in the kingdom, not only contained an interesting museum, which was open to inspection by the public, but also what, we believe, was extremely rare, an ancient laboratory where no doubt bygone members of the distinguished family pondered on alchemical problems, the foundations of which modern research seems to be doing something to rehabilitate. It would seem possible that in the quiet of these old country mansions, as in the gloom of the cloister, important discoveries were made which were in advance of the age and consequently not appreciated. The question arises, Can anything be done to stop this destruction by fire? It seems doubtful if the custodians of country mansions are equal to the task allotted to them. We would urge on all who possess the priceless treasures of antiquity to see that the guardians of such have both the mental and bodily qualifications, as well as goodwill, for their important charge.

THE SANITARY INSTITUTE LECTURES.

THE thirty-seventh course of lectures and demonstrations for sanitary officers will begin on Feb. 2nd at the Parkes Museum, Margaret-street, London, W., and will terminate on April 25th. The course is divided into two parts, the first part dealing with elementary physics and chemistry, hygiene, the laws of public health, and other subjects connected with sanitation, while the second part deals with the inspection of meat and the laws relating to the sale of meat and other articles of food. The names of Dr. E. J. Steegman, Dr. J. Priestley, Dr. E. P. Manby, and Dr. Reginald Dudfield are included in the list of lecturers. In connexion with this course a series of demonstrations will take place on successive Saturdays and Wednesdays throughout February, March, and April. On Feb. 6th, for example, there will be an inspection and demonstration at the new buildings of Charing Cross Hospital which will be conducted by Mr. A. S. Snell, F.R.I.B.A., on Feb. 27th Dr. J. F. Butler-Hogan will show to a party of students the working of the Tottenham disinfecting station and the dust destructor, on March 9th Dr. J. King Warry will take a small company of students through the district of Hackney for the purpose of inspecting the sanitary arrangements of that borough, and on April 27th Mr. J. King, M.R.C.V.S., will conduct an inspection and demonstration at the Metropolitan Cattle Market. Demonstrations on the sanitary apparatus and appliances in the Parkes Museum will be given from time to time by Mr. A. W. Harris and Mr. E. W. Wallis, F.S.S. The fee for the complete course is three guineas. The fifth course of practical training for meat inspectors will begin on Feb. 26th. This course, which lasts for two months, includes practical training at a cattle market. The fee is £3 13*s.* 6*d.*

ON THE KATATONIC FORM OF ADOLESCENT INSANITY.

THE adolescent forms of dementia have received much attention during the past few years, especially as regards their bacteriology and treatment. Dr. Lewis C. Bruce, medical superintendent, and Dr. A. S. M. Peebles, assistant medical officer, of the Perth Asylum, Scotland, have published in the *Journal of Mental Science* for October, 1903, a series of observations on the katatonic form of adolescent insanity which include certain new clinical and pathological facts of interest. 12 cases of the disease—ten females and two males—were investigated as regards physical symptoms, conditions of the blood, and the presence of bacteria in the blood or tissues. The history of the cases conformed to the classical descriptions of Kahlbaum and Kraepelin as given in the text-books. Nine men and one woman were in the period of adolescence, one woman was over 30 and one man over 40 years of age, "yet the disease was absolutely typical in both." Among the physical symptoms it was noted that the alimentary canal was disordered in every case, there was no desire for food, and vomiting after a meal was very common. The cardiac action was rapid, irregular, and intermittent. The above symptoms occurred in the acute stage of development of the disease and were succeeded by the characteristic phenomena of the next or katatonic stage. In no case under observation did the acute stage last longer than four weeks. The katatonic stage was ushered in by a distinct febrile attack in 50 per cent. of the cases, or in default of the febrile attack a high degree of leucocytosis was developed. The alimentary and circulatory systems continued to show the same physical disorders as before and the extremities now grew cold, cyanotic, and œdematous. The temperature was uniformly subnormal and patients in this stage were particularly "liable to tubercular infection." The mental state was one of stupor complicated with delusions of a persecutory nature. Occasional impulsive actions, stubborn mutism, rhythmical movements, and a condition of muscular hypertonicity with resistance to induced movements constituted the symptoms of this stage. Examination of the blood showed that immediately upon the

onset of the stupor the leucocytes fell to below 8000 per cubic millimetre but soon rose again to between 12,000 and 16,000 and the percentage of polymorphonuclear cells fell to about 60. As recovery set in the percentage of the latter increased. Bacteriological examination of the blood was made in eight cases. Three of these gave positive results and from one of the three cases a pure culture of a streptococcus was obtained which agglutinated in the serum of patients suffering from katatonia. "We have tested," add Dr. Bruce and Dr. Peebles, "the agglutinative power of the blood of 50 other patients, not cases of katatonia, to this streptococcus and only five gave the agglutinative reaction." It is probable, therefore, that a specific agglutinin is present in the blood of patients suffering from katatonia. Experimental observations were then made on rabbits with cultures of this organism. By infecting rabbits through the alimentary tract or blood stream with the streptococcus a condition of malaise with irregular temperature, increased skin reflexes, and mental hebetude was induced. This disease tended to terminate naturally in rabbits in about six weeks when a condition of immunity was established to this organism. The treatment of katatonia Dr. Bruce and Dr. Peebles consider to be entirely unsatisfactory. All but one of the cases treated by rest in bed, fluid diet, and saline purgatives "ran through the various stages of the disease unchecked." Attempts to procure a serum for the treatment of the disease were made by immunising a goat to the streptococcus obtained from an acute case of katatonia. The serum of this goat was used to treat two patients in a condition of stupor, by subcutaneous injections of 12 cubic centimetres daily. Two other stuporous cases were treated with ten cubic centimetre doses daily and five other cases were treated with subcutaneous injections of sterilised broth cultures of the organism. The object in these serum or broth injections was rapidly to raise the active immunity of the patients. The serum obtained from the goat gave no beneficial results and the active immunisation of the patients in the stuporous stage produced no curative effect. Dr. Bruce and Dr. Peebles conclude that though katatonic dementia is characterised by an acute toxic condition of definite onset and course, accompanied by definite changes in the blood and attended by a condition of mental confusion with stupor and katatonic rigidity of the muscles, the disease tends to run its course unchecked by ordinary medicinal or special serum treatment and that further investigation is needed for the discovery of an effective 'anti-serum" for its treatment.

THE REBUILDING OF ST. BARTHOLOMEW'S HOSPITAL.

ON Jan. 7th the deputation from St. Bartholomew's Hospital to the Postmaster-General was received by that Minister and on the same day a court of governors was sitting at the hospital. The deputation returned to the hospital before the court rose and were enabled to lay before its members the following results of the interview. Lord Stanley did not hold out any hope that the hospital would be enabled to buy any of the site of Christ's Hospital from the Post Office, for that department requires it all for itself. But the Post Office has met St. Bartholomew's Hospital in a most friendly manner. The Post Office authorities are going to make a private road 40 feet in width which will only be used by their own vans between their new buildings and those of the hospital. Further, they have instructed their architect to confer with the architect of the hospital as to the best arrangement of the new Post Office buildings so as to avoid taking away more light and air from the hospital than is unavoidable. These facts show a generous and sensible spirit on the part of the Post Office which is highly commendable. Furthermore, the governors of the hospital and the medical staff are in absolute accord as regards the necessity of more land being acquired and, the remainder of the Christ's Hospital site being now impossible to obtain, it has been decided to remove the nurses' home from its present position to some site outside the precincts of the hospital. This will free an area of nearly one and a half acres which, together with the site already purchased from Christ's Hospital, will give about an additional three acres of land to that on which the hospital already stands. There will thus be ample room for the construction of a thoroughly well-appointed building and it only remains now to raise the necessary funds; but if a properly thought-out and practical scheme is submitted to the citizens of London at the coming Mansion House meeting we are sure that the money will be forthcoming.

WALLS AND VENTILATION.

THE impression is quite common that in order to secure the efficient ventilation of the house the doors and windows or some aperture connecting the outside air with that inside must necessarily be open. In some cases this is no doubt to a large extent true. It is probably true, for example, in the case of a house situated in the middle of a terrace and in a measure for the semi-detached house. Recourse also to opening the window or ventilators is probably the only means of securing a change of air in the rooms of houses which are externally heavily painted or stuccoed or in which the walls of the rooms are solid or thick or covered with impervious paint or paper. The fact is that considerable ventilation is capable of taking place and quite a large exchange of fresh for bad air is effected through the walls of buildings. Many a room that is notoriously "stuffy" could doubtless be made pleasant to live in by removing the solid paper or impervious coat of paint from the wall and substituting porous paper or, better still, giving up paper altogether and using a distemper wash of pleasing tone. It is not appreciated as it ought to be that the common brick wall and plaster permit of considerable ventilation. The man who would live in fresh air when not out of doors and who objects to the open window would therefore accomplish the consummation of his wishes by choosing a detached house or as next best to that a semi-detached house or one at either end of a terrace and seeing that the walls, whether inside or out, had not their porosity interfered with by paint or air-tight paper. Naturally he would avoid the house in the middle of a terrace over the side walls of which he would have no control.

PATHOLOGICAL RESEARCHES FROM THE LABORATORY OF THE LUNACY DEPARTMENT, NEW SOUTH WALES.

THE pathological laboratory of the Lunacy Department of New South Wales was opened in 1900 and Dr. J. F. Flashman of the University of Sydney was appointed pathological director. Accommodation for the building was provided in the University, the laboratory being modelled on the lines of the pathological laboratory established at Claybury Asylum by the London County Council in 1895. Like the latter, says Dr. Flashman, the aim of the laboratory at Sydney is purely scientific, "being the investigation of the changes in the brain and nervous system caused by mental disease." The present volume of reports from the laboratory is the first of its kind issued and contains papers of pathological and neurological interest. The first contribution, by Dr. Flashman, describes the features of the brain of a microcephalic Australian idiot showing the rare absence of a corpus callosum. The brain was that of a patient, aged 17 years. Among the anatomical abnormalities were the presence of convolutions passing across the great longitudinal fissure, the

apparent absence of a corpus callosum, and the marked extent to which the cerebellum and insula were uncovered. The hippocampal gyri were extremely broad, a condition characteristic of microcephalic idiocy, as Professor D. J. Cunningham had pointed out some years ago. The second paper, by Dr. Flashman, deals with the parieto-occipital fissure in the brain of four Australian aborigines and points out certain rudimentary features in the same which indicate a stage of evolution less advanced than that of the European brain. This paper is of special interest to neurologists and anatomists. Dr. Flashman in another paper gives a detailed account of all the fissures and sulci of these brains, illustrated with reproductions of photographs and sections. The concluding paper in the volume is by Dr. C Quaife and deals with certain technical methods for the permanent preservation of specimens of the nervous system prepared by the Golgi method. It contains some useful hints on technique. The whole book is well got up and the printing and illustrations are excellent. The volume reflects credit on those concerned in the management of the pathological laboratory of the Lunacy Department, New South Wales, and gives promise of useful work to follow.

HEAVY RAINFALLS, AGRICULTURAL FAILURE, AND THE NEED OF SCIENTIFIC AID.

ONE consequence of the heavy rainfall of last year should not be overlooked by those who have the welfare of the country at heart. We allude to the impoverishment of the soil owing to the soluble fertilising ingredients, especially those containing nitrogen, being washed away by the repeated downpour. Apparently there is an impression that the saturation of the earth during the last season will, if conditions are otherwise satisfactory, lead to a "bumper" year for the agriculturist. This is a mistake, for useful though a copious supply of moisture may be there must be replacement of the essential manurial ingredients to bring out its full value. The present year is therefore decidedly a year when the farmer should have effective advice as to the condition and treatment of his land. We have already called attention to the parlous state to which analytical chemistry had been brought in Ireland by the old bad system of "cumulative" appointments and we regret that the same cause is working evils in this country. Some ten years ago the Fertilisers Act was passed and was framed for agriculturists much on the lines of the Sale of Food and Drugs Act. Unfortunately this Act has been almost a dead letter, for the "district" agricultural chemist, instead of being actively employed in the country and an available servant to the farmers, shielding them from imposture and benefiting them with advice, is carrying on scientific agriculture shut up in a laboratory in the city. This is the age of "personal service" and the analytical chemist should be in evidence or his sphere of usefulness will be sadly limited. The benefits that a resident analytical and agricultural chemist in each county could confer are boundless and the question should form one for discussion by such a body as the Institute of Chemistry.

PREMATURE DISCHARGE OF SCARLET FEVER PATIENTS.

AT a meeting of the Metropolitan Asylums Board held on Saturday, Jan. 9th, a letter was read from the medical officer of health of the Stepney borough council forwarding details of four cases in which a fresh outbreak of scarlet fever had followed the discharge of patients from the Board's hospital. The communication stated that the council had had under consideration a letter from a resident at Shadwell in which he stated that on Nov. 26th one of his children was removed to one of the Board's fever hospitals suffering from scarlet fever and was discharged therefrom on Dec. 18th. On her arrival home there were distinct signs of peeling. The result was that five days afterwards a second daughter was seized with the same disease. Moreover, three other cases of premature discharge with consequent infection of other patients had come before the attention of the public health committee. The council drew attention to the great danger to public health caused by the action of the Board in discharging patients before they had finished peeling, thereby causing unnecessary suffering to patients, great inconvenience to relatives, and a large amount of additional expense to the ratepayers generally. The letter concluded by asking that the cases might be thoroughly investigated and for the Board's observations thereon. It was decided to refer the letter to the hospitals committee for consideration and report.

TWO NEW ROMAN OCULIST SEALS.

AN account of an oculist seal found at Rugles was given in THE LANCET of Sept. 5th, 1903, p. 725. Two more will now be reported upon but the first of them is only known by a careful copy of the inscription made by an antiquary named Garrucci whose note of it has recently been discovered having remained hidden away among sundry papers since 1867. The seal was disinterred at Arles in the Rhone valley and its readings are preserved among the notebooks of the late Dr. Sichel who obtained them from Garrucci. Dr. Sichel devoted a considerable amount of time to the medical side of the evidence afforded by oculist seals and published his results which have been much utilised by scholars in studying new specimens from time to time. This particular signet belonged to an oculist, Lucius Tettius Sabinianus, and bore the following inscription, omitting the fourfold repetition of his name:—

"L(ucii) Tetti(i) Sabinia(ni) authem(erum) ad lipp(itudinem)
diac(h)yl(um) ad cal(iginem)
..... ad lippi(tudinem)
... diachol(es) ad dia(theses)."

The translation of the inscription is as follows:—

"(Collyrium) authemerum of Lucius Tettius Sabinianus against ophthalmia.
(Collyrium) of sugar of plants ..... against obscurities of vision.
Collyrium ..... against ophthalmia.
Collyrium of gall against diatheses."

The first remedy appears to have been identical with another collyrium mentioned by ancient medical authors but not yet found upon oculist seals, known as "monohemera." The special characteristic of "authemerum" and "monohemera" was rapidity of action, for they were reputed to effect a cure, or considerable amelioration of the symptoms, within a single day. Several formulæ for authemerum are given by ancient writers such as Paulus Ægineta.[1] The collyrium diachylum mentioned next in order conveys its own meaning: it was a vegetable sugar and has only once before been found upon a seal and then without any addition to show the purpose for which it was recommended. Ætius, however, twice speaks of it. Scribonius used it for "caligo," or defective vision. The seal of Gaius Valerius Amandus found at the "Ballast Hole," near Biggleswade, and now in the British Museum, mentions caligo, giving stactum as its remedy—that is, oil of myrrh. The third line of this seal does not require comment. Diacholes in the fourth had gall (διαχολῆς) for its base. It was used to cure leucoma and ulcerations of the cornea. All that can be said about it is told by M. Villefosse and M. Thedenat in their "Cachets d'Oculistes Romains." The second seal is of

[1] De Re Medicâ, lii., 22.

importance because its inscription is in Greek, it being the third, or perhaps the fourth, yet known. It reads:—

Δικεντ(ον) = dicentetum.
Κυκν(αριον) = cycnarium.
Χλωρον = chloron.

It was discovered in a lady's tomb by Dr. Sauvage when excavating a Merovingian cemetery at Boulogne. Dicentetum was treated of in the notes upon the Rugles seal published in THE LANCET of Sept. 5th. It means "of special power," or strength. Ætius gives its ingredients as misy, sugar of poppies, verdigris, and gum. Cycnarium occurs in Galen and in Paulus Ægineta;[2] it meant "swan-coloured" (κύκνειον)—i.e., white. Chloron (χλωρὸν) was green; it occurs on the seal of Ariovistus found at Colchester.[3]

THE ASSOCIATION OF CERTIFYING FACTORY SURGEONS AND THE VENTILATION OF FACTORIES AND WORKSHOPS.

AT the annual meeting of the Association of Certifying Factory Surgeons held in May last year it was decided to ask a special committee of the association to report on the recommendations made in the first report of the departmental committee appointed to inquire into the ventilation of factories and workshops which was issued on August 15th, 1902. This report was dealt with in THE LANCET of Feb. 14th, 1903, p. 463. In regard to the recommendations, which are given *in extenso*, we stated that the first, which referred to limitations as to the permissible amount of carbonic acid gas in the air, "is open to very grave objection," while we remarked that "the last two are devoted to recommending the general use of Dr. Haldane's apparatus." These points have now been dealt with by the special committee appointed by the Association of Certifying Factory Surgeons. In regard to the sufficiency of a carbonic acid standard in all cases, the committee points out that it does not follow necessarily that if the proportion of carbon dioxide is found to be below the limit the place is properly ventilated. To quote one example, it is no uncommon practice to have the entrance to a workplace protected by a closed door and it is only on the business of the factory inspector being known or made known to the janitor behind the wicket that the desired entrance can be obtained. Thus an opportunity is provided for "emergency" ventilation before any samples can be taken. The special committee suggests that the difficulty might be overcome by insisting on proper regard being given to the relationship between ventilation and temperature. Obviously the introduction of fresh air to sweep out impurities just before the inspector's visit would disturb the temperature of the room. It is proposed that two thermometers should be fixed in each room in such places that the degree of variation between them would be a guide to the recent opening of windows. The special committee very seriously questions the utility of any order based upon the standard of 13 volumes of carbonic acid in every 10,000 volumes of air and it quotes a few important arguments against the adoption of too low a standard of purity which we, think, are very much to the point. It agrees that the standard should be lowered when gas or oil is burning, though not to the extent—namely, 21 parts per 10,000—recommended by the departmental committee. It is suggested that a reasonable proportion of carbon dioxide over and above that of the outside air which might be allowed during gaslight would be double the amount allowed in excess of outside air during daylight. In any case the committee thinks, and we agree that it is quite sound in principle, that the standard should be stated in terms of carbonic acid in excess of that found in a sample of outside air taken at the same time. It is clearly not reasonable that an employer in the outskirts of the city with better natural facilities for ventilation should be allowed an extra volume of respiratory impurity over and above that conceded to the employer in the town. In the case of Manchester, for example, a difference of one volume of carbonic acid per 10,000 between the atmosphere of Manchester proper and the immediate outskirts exists owing, not to respiratory impurities, but to smoke troubles and stagnant air. The practical utility of the suggestion is doubted of asking inspectors to conduct estimations of the amount of carbonic acid by means of Dr. J. S. Haldane's apparatus which is certainly not simple and would require the attention of an expert. There are much simpler methods which are sufficiently accurate for the purpose. The committee concludes that an equivalent of impurity to the extent of an additional five volumes of carbon dioxide per 10,000 in excess of that found outside would be a fair proportion to allow during daylight and that double this amount could reasonably be allowed during gaslight. It is also of opinion that the basis for legal proceedings should be one volume in excess of that named for a daylight sample and two volumes in excess in the case of samples taken during gaslight. It is added that the limit suggested should also be made to apply to cotton-cloth factories. The report is signed by T. F. Young, Thomas Fort, and W. F. Dearden, the honorary secretary of the association.

FACIAL ERYSIPELAS FROM EROSIONS OF THE NASAL SEPTUM.

IN the *Boston Medical and Surgical Journal* of Dec. 17th, 1903, Dr. J. W. Farlow calls attention to a source of facial erysipelas which is not generally recognised—erosions of the nasal septum. These may exist without attracting the notice of the patient or the practitioner. He relates the following cases. A woman, aged 75 years, came under observation for occasional spasm of the throat. Nothing was found except an erosion and crust on the right side of the septum nasi. Two months later she was ill, with a temperature of 101° F. and headache. The septum was red and swollen and there was marked erosion on the right side of the septum, on which was pus. The bridge of the nose on the right side was very red, tense, and painful, and the redness was spreading towards the cheek and the eye. The secretion was removed from the nose and antiseptic dressings and powders were used. On the following morning the temperature was 103° and the erysipelas had spread to the other side of the face. The septum was again thoroughly cleansed and the nose was kept free from secretion. On the next morning she was much better. Recovery rapidly followed. The treatment of the nose seemed to have prevented a fatal result. In another case a woman, aged 40 years, had had several severe attacks of facial erysipelas at frequent intervals. There was a marked erosion of the septum which Dr. Farlow treated. On one occasion subsequently the septum became reddened and there was incipient redness of the bridge of the nose as in the former attacks. The nose was thoroughly cleansed and the symptoms disappeared in a short time. During the remaining nine years of life she had no more attacks. In a third case a man, aged 52 years, had a severe attack of facial erysipelas. When Dr. Farlow examined his nose at a later period he found a marked septal erosion with bloody crusts. Subsequently the nose became reddened and the patient feared an attack of erysipelas; but treatment of the septum seemed to prevent the attack. None of these patients complained of the nose sufficiently to have it examined, yet when they came under Dr. Farlow's care each had a large open sore. At the Massachusetts General Hospital all cases of

[2] Ibid., viii., 16.
[3] See Simpson, Monthly Journal of Medical Science, 1851, p. 250, also Ætius Tetrabiblos, iii., 3, 29.

facial erysipelas going to the department for diseases of the skin are referred to the department for diseases of the nose and throat for examination of the nose. The importance of Dr. Farlow's observations, particularly in recurrent attacks of facial erysipelas, is obvious.

WILLIAM BLAKE.

AT the present moment there is to be seen at the Carfax Gallery in Ryder-street a collection of the works of that very remarkable poet and craftsman William Blake. He was a man who was certainly born out of due time, for his life 1758-1827, coincided with the time when art, except for Turner, Constable, and one or two other landscape painters, was at its very lowest ebb in England at all events and his strange mystical drawings must have been absolutely incomprehensible to the majority of his contemporaries Take, for instance, "The Nativity," where the Divine Child is floating in the air between the Virgin and St. Elizabeth, or "The River of Life" with its swiftly moving figures. Blake's drawing was often defective and he had a habit of making his figures appear to be about ten feet in height, as exemplified in the picture of Christ raising the son of the widow of Nain; his nude figures also are, as a rule, too anatomical, but his feeling for line is wonderful. He could, however, at times produce nude figures of wonderful beauty —witness the picture of the triple Hecate. He had the same faculty for making his figures move as had Botticelli, a point well seen in the picture of the Ascension, where our Lord is rising and two angels are descending. In all his pictures of fire, also, he gives the flicker and ascent of the flames with wonderful fidelity and his angels really are winged creatures and not men or women with bird's wings attached to them. Even when his angels are sitting still they are angelic and show their spiritual qualities, a good instance of which is the drawing of Raphael talking to Adam, where his wings mount up in a beautiful flamboyant ogee, and there is no need here to refer to the angels in the Job illustration of "The morning stars sang together." The borderline between sanity and insanity is so narrow that it is, perhaps, impossible to say whether Blake was sane or not. Imagination when uncontrolled may be said to be insanity and Blake's imagination certainly played him strange tricks. But, mad or not, the man who could write poetry like the song beginning "My silks and fine array," or paint pictures like the "Ascension," has left treasures to posterity.

THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS.

ON Dec. 21st, 1903, the following communication was received from the assistant clerk to the Metropolitan Asylums Board by seven assistant medical officers in the fever service of the Board:—

> In consequence of the decline of infectious disease the hospitals committee have determined to reduce by eight the present staff of assistant medical officers in the hospital's service of this Board, and I hereby give you formal notice that your engagement as assistant medical officer will terminate at the expiration of one month from the 25th inst. I shall be obliged by receiving from you an acknowledgment of this communication.

The seven assistant medical officers who are referred to above have sent a reply to the Asylums Board in which they express their surprise at the communication. They add that all of them have seen at least one year's service and some of them two years' service, that the terms of the advertisement which they answered, and also the form of application which they filled in, left no room to suppose that the engagement could be terminated in such an abrupt manner. Moreover, when they appeared before the selecting subcommittee several of them were asked whether they would be willing to serve for several years and they were only appointed on giving such an assurance. The protesters add that they were elected in an emergency and worked at high pressure and that they did not expect that a lull in the work would be made the opportunity for dismissal. They therefore beg the Board to reconsider its decision. We cannot but think that the Asylums Board has acted harshly in this matter. No one can expect the same staff to be kept up during a time of freedom from infectious disease as during an epidemic, but the Board should not, as it appears to have done, have implied that the term of service of the assistant medical officer would be for several years. A month's notice is far too short a time to give to men who have most of them resigned good permanent appointments to assist the Board in a difficulty (three months at least should have been given), and for a body which has wasted thousands of pounds of the ratepayers' money over the Brook Hospital, to treat its employés with what we must call calculated meanness is not right, to say nothing of the fact that when the next epidemic comes the Board will find it very difficult to obtain the services of extra medical officers. This is a bad policy, for not only does it mean increased mortality but increased expense.

THE medical officer of health of the Cape Colony states that for the week ending Dec. 19th last only 1 case of plague was discovered in the Colony—namely, a native male at East London. Plague-infected rats continue to be found at various places in the Colony, but in the Cape Town and Harbour Board area 422 rats were examined during the week and none was affected with plague. As regards the Mauritius a telegram from the Acting Governor received at the Colonial Office on Jan. 8th states that for the week ending Jan. 7th there were 55 cases of plague and 37 deaths from the disease.

THE interests of Dr. J. F. D. Macara, to whose case we referred last week in a leading article on the Scottish Poor-law Medical Service, have been intrusted to the Medical Defence Union We understand that an "interim interdict," to use the Scotch expression, was obtained last week by the Medical Defence Union against the Durness board to prevent the appointment of a successor to Dr. Macara.

DISQUIETING reports having appeared in the press as to an outbreak of yellow fever in Jamaica the governor of that colony has telegraphed to the Colonial Office that since the death of an officer from this disease which he reported on Nov. 18th last no case has occurred and that the state of health in the island is most satisfactory.

AT the next meeting of the Royal Microscopical Society on Wednesday, Jan. 20th, at 8 P.M., Dr. Woodward will deliver his presidential address on the Evolution of Vertebrate Animals in Time. The meeting will be held, as usual, at 20, Hanover-square, London, W.

THE SALE OF FOOD AND DRUGS ACT.—An interesting point of law was raised at Axminster on Jan. 6th with regard to the Sale of Food and Drugs Act. The inspector under the Act visited a shop and wished to purchase some cheese for the purpose of analysis but the proprietor refused to sell it. The solicitor for the shopkeeper contended that as the inspector did not tender payment for the article he asked for there could be no conviction as the Act distinctly provided that the price of the article must be tendered. The inspector stated that when he received the goods he would have been quite willing to tender payment for them but he could not offer payment until the goods were ready to be received. The bench of magistrates eventually dismissed the case, although at first the chairman stated that the majority of the magistrates thought it was not absolutely necessary to tender any payment until the cheese had been received. Notice of appeal was given.

THE LANCET RELIEF FUND.

Almoners.

THIS Fund, which came into operation on the 1st of February, 1889, has for its Almoners the President of the Royal College of Physicians of London (Sir WILLIAM SELBY CHURCH, Bart., K.C.B., M.D. Oxon.), the President of the Royal College of Surgeons of England (Mr. JOHN TWEEDY), the President of the General Medical Council (Sir WILLIAM TURNER, K.C.B., M.B. Lond., F.R.C.S. Eng. and Edin., F.R.S.), Mr. THOMAS WAKLEY, F.R.C.S. Eng., and Mr. THOMAS WAKLEY, jun., L.R.C.P. Lond., with Sir HENRY PITMAN, M.D. Cantab., F.R.C.P. Lond., as Honorary Auditor.

Scope of the Fund.

FOR the guidance of those seeking assistance and of those desirous of recommending deserving cases, it may be useful to record that THE LANCET Relief Fund is sustained solely by the Proprietors of THE LANCET, who provide every January the sum of at least £300, which is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners, or to their widows and orphans, in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require. In the case of widows and orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.

Chronic Cases ineligible.

WHEN the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established, and, as a result, the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. As the Almoners still receive applications for assistance for cases which are obviously of a *chronic* character, it is thought advisable to append a statement concerning cases of this nature which appeared in THE LANCET of Feb. 16th, 1889:—

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—

And who, it may be again pointed out, are likely to be permanently benefited thereby.

FIFTEENTH ANNUAL REPORT of the ALMONERS.

For the year ending December 31, 1903.

IN presenting their Fifteenth Annual Report the Almoners have to record that the balance in hand on Dec. 31st, 1902, was £303 2*s.* 11*d.*, to which, on Jan. 1st, 1903, the Proprietors of THE LANCET added the sum of £300, making a total sum of £603 2*s.* 11*d.* available for grants during the year 1903.

The number of applications for assistance received by the Almoners during the year was 76—a slight increase as compared with those received in the previous year—of which 21 were so obviously outside the scope of the Fund that they were rejected by the Secretary by virtue of the discretionary power conferred upon him by the Almoners at their meeting on Jan. 1st, 1890; six were rejected by the Almoners after due consideration; three were withdrawn by the applicants; two were uncompleted at the close of the year; in eight cases Forms were sent but were not returned—probably the applicants recognised that their cases were outside the scope of the Fund; and 36 applicants were relieved by gifts or loans of money ranging from £2 to £35. The relief of the 36 cases, a detailed list of which is given in the accompanying Statement of Accounts, involved the expenditure of the sum of £442 16*s.* 6*d.*—a sum considerably above the normal income of the year, omitting balances brought forward and possible receipts from repayment of loans, and the largest sum voted in any one year since the inauguration of the Fund in 1889.

Letters continue to be received by the Almoners from some of those whom they have helped, expressing their gratitude for the relief which has enabled them to mitigate, and in not a few cases to overcome, their difficulties, and thus testifying to a pleasing feature in the administration of the Fund.

The promptness of the relief afforded to applicants is also a feature to which the Almoners continue to give their particular attention; in this connexion it may not be uninteresting to record again the fact that on several occasions the Almoners have been able to consider cases and to grant relief on the actual day on which the application was received.

There continue to be far too many applications received for assistance for what are obviously "chronic" cases, a large proportion of the 21 cases rejected by the Secretary coming under this heading. It cannot be too emphatically reiterated that THE LANCET Relief Fund exists to meet cases of *sudden emergency*, where timely help will tide the practitioner over unforeseen difficulties, or afford his widow

and orphans a few weeks' respite from the more pressing financial cares of their unhappy position.

Mr. John Tweedy having succeeded Sir Henry Howse as President of the Royal College of Surgeons of England in July last, thereupon became an Almoner of the Fund and consented to act as such. The present Almoners desire to record their appreciation of Sir Henry Howse's excellent services to the Fund.

In conclusion, the Almoners desire to state that they will at all times be glad to have their attention called to any cases of genuine distress coming within the scope of the Fund, but they trust that those recommending cases or giving testimonials will first take steps to satisfy themselves of the *bona fides* of such cases before endorsing them. In the administration of such a Fund as this the Almoners are of necessity largely guided in their decisions by the testimonials accompanying the applications.

(Signed) W. S. CHURCH. JOHN TWEEDY.
WM. TURNER. THOMAS WAKLEY.
THOMAS WAKLEY, Jun.

January, 1904.

THE LANCET RELIEF FUND.

STATEMENT OF ACCOUNTS FOR THE YEAR ENDING DEC. 31st, 1903.

DR.	£	s.	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1903	303	2	11
,, Proprietors of THE LANCET, Jan. 1st, 1903 ...	300	0	0
	£603	2	11

CR.	£	s.	d.	£	s.	d.
By Loans :—						
Case No. 566	35	0	0			
,, 591	10	0	0			
,, 596	6	14	6			
,, 599	25	0	0			
				76	14	6
By Gifts :—						
Case No. 565 (voted 1902) ...	10	0	0			
,, 567	5	0	0			
,, 568	10	0	0			
,, 569	10	0	0			
,, 570	20	0	0			
,, 571	6	0	0			
,, 572	5	0	0			
,, 573	5	0	0			
,, 574	15	0	0			
,, 575	25	0	0			
,, 576	5	5	0			
,, 578	15	0	0			
,, 579	5	0	0			
,, 580	20	0	0			
,, 581	20	0	0			
,, 582	5	0	0			
,, 583	10	0	0			
,, 584	15	0	0			
,, 585	10	0	0			
,, 586	15	0	0			
,, 587	10	0	0			
,, 588	15	0	0			
,, 589	10	0	0			
,, 590	4	17	0			
,, 592	25	0	0			
,, 593	5	0	0			
,, 594	10	0	0			
,, 595	10	0	0			
,, 597	20	0	0			
,, 598	5	0	0			
,, 600	10	0	0			
,, 601	5	0	0			
,, 602	3	0	0			
,, 603	2	0	0			
				366	2	0
Cheque Book				4	2	
Balance at Bank, Dec. 31, 1903 ...				160	2	3
				£603	2	11

I find by the Bankers' Book that the actual Balance on Jan. 1st, 1903, to the credit of the Fund was £303 2*s.* 11*d.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 1st, 1903.

The balance at the Bank on Dec. 31st, 1903, was the sum of £160 2*s.* 3*d.* I have also checked the receipts for disbursements and find the above account strictly accurate.

January 4th, 1904. HENRY A. PITMAN, Hon. Auditor.

THE INTRODUCTION OF AN AGE LIMIT AT THE ROYAL INFIRMARY, EDINBURGH, FOR THE MEDICAL AND SURGICAL HONORARY STAFF.

(FROM A CORRESPONDENT.)

AT the annual general meeting of the court of contributors of the Royal Infirmary of Edinburgh held on Jan. 4th publicity was given to a matter which up to then might have been regarded as of the nature of confidential relations between the managers on the one hand and the honorary staff on the other. In the report submitted by the managers it was intimated that "the managers had, after most careful consideration, introduced a new rule to the effect that the ordinary physicians and surgeons should retire in future on attaining the age of 65 years. The limit was originally fixed by the board at 60 years, but in deference to the strongly expressed wish of the medical and surgical staff it was afterwards extended to 65 years. It was resolved, however, that the rule should not be applied in the cases of those members of the staff who were at present serving their second or third term of five years in charge of wards nor to the professors. It was at the same time resolved that the charge of wards set apart for the instruction of women students (hitherto held by the senior assistant physician and the senior assistant surgeon) should now be regarded as a full charge and count towards the full term of office as ordinary physician and surgeon." It will be seen that no reason for this change is given—it appears to be quite an arbitrary decision. It is not suggested that physicians or surgeons at the age of 65 years were unfit for hospital work, for were that the contention it would have left the board open to the reply that present seniors, whether professors or not, were continued in office in spite of their incompetence. The history of this sudden new departure is somewhat as follows. So far as can be ascertained it appears that there had been expressions of dissatisfaction on the part of assistant surgeons as to slowness of promotion. Acting apparently on this somewhat vague spirit of discontent, the managers without any consultation with the staff intimated that they had determined upon an age limit of 60 years but exempted from it the two sets of persons indicated in the quotation from the report given above. It will be noted that this new regulation was not confined in its application to future appointments but was applicable to present holders of office. The regulation in fact affected nearly the whole of the assistant physicians and surgeons and some of the full staff. It therefore gave rise to much excitement and to much hostile comment. It may here be mentioned that the full physicians and surgeons have charge of wards for three periods of five years each and then retire, and that the assistant physicians and surgeons are promoted to charge of wards in order of seniority on the staff. These assistants are also appointed for periods of five years but they have always been looked upon as having absolute security of tenure and certainty of promotion. Were it not so men would not give up so much of their general practice as they do in order to devote themselves to the duties of the infirmary and of the school of medicine. The new regulation cut into the time during which the junior staff expected to have charge of wards and it was keenly resented. Instead, however, of opposing it as a breach of custom, if not of contract, they decided to fight for an extension of the limit to 65 years and this the managers acceded to. The 65 years limit only fell upon a few assistant physicians, so that the hastening of promotion, which was the avowed motive of the managers for the new regulation, was confined to those appointments and in not one of them does it become operative for something like ten years from now.

This explains the paragraph quoted above from the annual report of the managers to the court of contributors, which seemingly constitutes the final authority in infirmary matters. At this meeting it was proposed "that in the public interest the age limit enacted by the managers of the Royal Infirmary for the ordinary physicians and surgeons be made to apply as well to the physicians and surgeons of the institution nominated by the University." The proposal was submitted by a member of the junior bar who had been evidently coached by someone with a restricted sense of humour, for his whole argument consisted in the assertion that it was the duty of the court to protect the interests of the patients by seeing that they were not attended by physicians and surgeons of the worn-out age of 65 years, and yet he excluded any present physician or surgeon who had reached that age and also excluded the present holders of University nominations. So while the age limit is at once made applicable to certain of the assistant staff, professors may go on to 80 or 100 years, no matter what the loss to patients may be meanwhile. Curiously enough this proposal was opposed by a prominent member of the board of management and by a University representative on the board in the interests of "justice and equity" and "the public interest," and yet so far as is known those gentlemen did not hesitate from any sense of justice and equity to apply their rule to other members of the staff. The motion was carried by a majority of two to one and it is probable that a good many persons wish that the matter of age limit had been left alone and that the managers had instead used the power they possessed of not reappointing men when it became notorious that they were unfit or unsuitable for hospital work and the teaching of students. It is not known what the University may determine to do in the circumstances; the professors hitherto took little or no interest in the question of age limit, seeing that they were specially excluded; now that it has been determined to apply it to their successors it has led to a measure of perturbation. The question has, it seems, to come up before another meeting of contributors to be held shortly.

MEDICINE AND THE LAW.

An Important Decision under the Dentists Act.

MR FENWICK at Bow-street police-court has delivered a decision of considerable importance in the case of John Panhaus summoned for using a description wrongly implying that he was a person qualified to practise dentistry. The defendant carried on business under the title "Dental Institute (Limited)" and had no registrable qualification. The point was taken on his behalf that as a limited company could not be "a person specially qualified to practise dentistry" there could be no infringement of the Act. The learned magistrate said that it was clear that the defendant was not a qualified and registered person within the meaning of the Dentists Act of 1878. It was also clear that he practised dentistry and apparently he carried on the Dental Institute (Limited) for his sole profit. He agreed that a limited company could not be a person qualified to practise dentistry and he had no doubt that the defendant registered the company for the purpose of evading the Act. The words "Dental Institute" clearly implied that the persons using them were specially qualified to practise dentistry and the defendant must pay fines and costs amounting to £14 1s. This case would constitute an excellent one wherewith to test and to establish the law with regard to the inference to be drawn from such words as "Dental Institute (Limited)" and the liability of unqualified persons practising as medical men or as dentists under such shelter as the title of company may afford. In these circumstances it is better not to discuss previous decisions bearing upon the subject but to wait and to see whether Mr. Panhaus cares to take his case up to the Divisional Court. The findings of fact against him are clearly the only ones which the evidence justified.

Unqualified Practice by a Ticket-of-Leave Man.

James Charles Ady, a coloured man, was convicted and fined £20 with £10 10s. costs at the West London police-court for the use of titles implying qualification to practise medicine in the following circumstances. Ady's name was struck off the Medical Register for infamous conduct in 1896 and in 1898 he was sentenced to seven years' penal servitude for performing an illegal operation. Having been released on ticket-of-leave in April, 1903, he had lost no time in fitting up a surgery in Wardo avenue, Fulham, placing in the window a card bearing the inscription "Institute of Eclectic Medicine—Medical Superintendent, Dr. Ady, L.R.C.P., L.R.C.S. Edin., ex-Med. Reg.," the last three syllables being in smaller type than the rest. It was contended for the defence

that these constituted a sufficient notice to the public that the defendant was not a qualified practitioner. In addition two brass plates contained the letters indicating the qualifications under which he had been registered and it was proved that he appended them to his signature. When a clerk in the employment of the solicitors to the Medical Defence Union complained to him of a cough and suggested that he would like "to have a rest and declare on the club," Ady gave the following certificate: "I certify that Mr. Tyrell is suffering from a bad attack of influenza and a few days' rest would greatly aid in his recovery.—(Signed) James C. Ady, L.R.C.P., L.R.C.S. Edin., 1878."

Professional Secrecy in America.

Medical practitioners in this country have often appealed against the principle of English law which imposes upon them in certain infrequent circumstances the duty of divulging in the witness box the professional confidences of their patients. The courts of this country do not recognise the right on the part of a medical man to refuse to give a patient's name or to state the nature of the disease from which that patient is suffering. But when practitioners are very much averse from making the disclosures required of them they always find judge, jury, and all counsel concerned anxious to spare them. In one case which was heard in Scotland in 1896 a medical man who brought an action against an insurance company on an accident policy allowed judgment to go against him rather than disclose the name of the patient from whom he had caught the infection.

In America, however, the legislatures of some of the States have adopted the principle of excusing the practitioner from having to make disclosures. Thus by the New York Civil Code:—

> A licensed physician or surgeon cannot without the consent of his patient be examined in a civil action as to any information acquired in attending the patient which was necessary to enable him to prescribe for the patient.

A similar enactment is in force in many other States, subject, however, in some cases to the further provision that the consent may be given by the legal representative of a deceased patient. It might be thought, and so far as members of the medical profession are concerned it is undoubtedly the fact, that this enactment works well in practice. A reference, however, to some of the cases which have recently been decided in the American courts shows that circumstances arise which make its practical application somewhat difficult for the patient.

In the first place, the American courts in applying the rule seem to draw a distinction between civil and criminal cases. When the defendant, who was charged with rape, was examined while in gaol by physicians who were not summoned by him, and against his consent, their testimony that they found him suffering from a venereal disease which it was alleged the prosecutrix had contracted from the prisoner, was held not to be objectionable as it did not come within the meaning of the phrase "privileged communication by a patient to his physician" (State *v.* Height, 91 N.W. 935). The rule seems to be different in a civil action. Thus in Pennsylvania an action was brought by a person to recover damages for personal injuries sustained in a railway accident. Under a statute there in force a physician could not, without the consent of his patient, be examined in a civil action as to any information acquired in attending a patient which was necessary to enable him to prescribe for the patient. The railway company sent a physician to examine the injured man on their behalf. It was held that he was not entitled to testify, it being apparently presumed by the court in such a case that the relation of physician and patient existed during such examination and that the information obtained was for the purpose of enabling the physician to prescribe and to act for the patient. This shows that a provision of this kind is likely to lead to grave difficulties in the administration of the law. No doubt if the patient considers that it will serve his purpose to allow the practitioner to state the results of his investigations in the consulting room he will consent to waive the privilege, but if in the reverse case he is able to withhold his consent grave injustice may follow. Waiver may arise by implication of law. Thus it appears to be a waiver of privilege if a witness states in the box the effect of what her physician has said as to her condition (Highfill *v.* Missouri Pacific Ry. Co., 93 Mo. App. 219). But it is the patient or his personal representative only who can grant the waiver. Thus the Code of Civil Procedure of the State of New York, Section 83, provides that a physician shall not be allowed to disclose any information acquired in attending a patient in his professional capacity which was necessary to enable him to act in that capacity, and Section 836 provides that a physician may disclose the mental or physical condition of a deceased patient when the provisions of the previous section have been expressly waived by the personal representative of the deceased. It was decided in an action by a widow against a mutual benefit insurance company that the testimony of her husband's physician, introduced in her behalf, that the husband was in a state of delirium prior to his death by suicide, was improperly admitted, the widow not being the executrix or administratrix of the husband and therefore not competent to waive the provisions of the section. This case merely requires to be stated to show that the law of which it purports to be an interpretation is both harsh and unjust. Suppose in America an action was brought by a widow to recover damages for the death of her husband alleged to be caused by the negligence of the defendant. Suppose, further, that the whole question in the case was whether the death of the deceased had been caused by that negligence. Unless the widow was the personal representative of the deceased and as such able to permit her husband's medical attendant to give evidence she would be unable to recover. Hard cases of this kind seem to show that the law as applied in the United States is misconceived. The whole object of making secret the confidences of the consulting room is to protect the patient, not to injure him or those dependent on him. We have already seen that in a civil action the defendant may find it hard to adduce medical testimony. The following case is a further illustration of this. Under a statute providing that a physician should be incompetent to testify except with the consent of his patient as to any knowledge acquired by him in treating such patient, the defendant in an action for malpractice was held not entitled to compel the plaintiff to testify that another physician had taken an x-ray photograph or skiagraph of her injured knee, which he had done for the purpose of treatment (Aspy *v.* Botkins, 66 N.E. 462).

THE MIDWIVES ACT, 1902, AND IRISH TRAINING INSTITUTIONS.

CERTAIN conditions imposed by the regulations of the Central Midwives Board upon candidates for examination with a view to enrolment upon the Midwives Register are likely to act with considerable hardship in the case of Irish institutions justly held in high esteem as training schools in midwifery unless the Central Midwives Board can see its way to modify or to supplement its rules with a view to meet the difficulty which has been pointed out. The Central Midwives Board has laid down that the candidate for registration as a midwife before presenting herself for examination must have attended and personally delivered 20 cases of labour and that she must have nursed 20 such cases for ten days after confinement. At a recent meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland the President, Dr. A. J. Smith, stated that it would be impossible for such institutions as the Rotunda Lying-in Hospital, the Coombe Lying-in Hospital, and the National Lying-in Hospital in Holles-street, Dublin, to give 20 cases to a nurse for personal conduction, as to do so would necessitate doubling the size of the hospitals, and that it would be equally impossible for nurses in the Dublin hospitals to nurse their patients for ten days after delivery because the practice is for patients to leave at the end of the eighth day and that if this time were to be extended by the hospitals there was no likelihood that the majority of their patients would remain longer. In these circumstances those present at the meeting unanimously passed the following motion:—

> That in the opinion of the Obstetric Section of the Royal Academy of Medicine in Ireland any woman holding the nursing certificate of the Irish chartered maternity hospitals shall be deemed to have complied with the rules of the Central Midwives Board regulating the course of training of "pupil midwives" and shall be eligible to present herself for the examination of the Central Midwives Board.

A further motion was also submitted to the meeting and passed unanimously to the effect that the Midwives Act should be extended to Ireland. At present it extends neither

to Ireland nor to Scotland and it is with regard to midwives likely to be trained in Ireland for practice as midwives in England that the difficulty indicated has arisen. It must not be forgotten in considering it that Section 2 of the Midwives Act provides that "any woman who within two years from the date of this Act coming into operation claims to be certified under this Act shall be so certified provided she holds a certificate in midwifery from the Royal College of Physicians of Ireland or from the Obstetrical Society of London or the Coombe Lying-in Hospital and Guinness's Dispensary or the Rotunda Hospital for the Relief of the Poor Lying-in Women of Dublin, or such other certificate as may be approved by the Central Midwives Board, or produces evidence satisfactory to the Board that at the passing of the Act she had been for at least one year in *bonâ fide* practice as a midwife and that she bears a good character."

The result of this is that although under the Act itself women trained in the institutions named are, during the time specified, entitled to be enrolled without further question as to the sufficiency of their training, in the following year and afterwards, under the rules framed by the Board, they will not even be deemed to be qualified to present themselves for examination. The training afforded to women by the midwifery institutions in Ireland which are named in the section quoted is highly and justly esteemed by all who are acquainted with the subject. The case on their behalf, and in support of the views of those who would regard the training afforded by them as a sufficient preliminary practical education for the purposes of the Midwives Act, was thus forcibly put by Dr. Henry Jellett in a letter to Dr. W. Japp Sinclair, a member of the Central Midwives Board, which Dr. Jellett read at the meeting referred to and to which he had received a reply recognising that the Irish hospitals had a substantial grievance. Dr. Jellett inquired of Dr. Sinclair what would be the position of the Irish nurse who applied to be admitted to the examination of the Board and said, "I have been a pupil midwife for six months at one of the Dublin incorporated hospitals. During that time I have attended a regular course of instruction, I have watched some 300 or 400 deliveries, I have personally assisted at some 20 to 30, I have personally conducted some three or four, I have watched some 600 to 800 women during their puerperium, and I have personally nursed some 20 to 30. I have passed the examination of the hospital." There is a great deal of force in the argument that is thus suggested. The Central Midwives Board had to frame rules in order to secure the practical efficiency of women presenting themselves for examination and to provide a test. It had a perfect right to make its standard of efficiency a high one and to lay down a test which would maintain that standard in all cases. The question at issue relates to the test imposed. If that test admits only women whose practical training is superior to that afforded by the Dublin hospitals and excludes women trained in those institutions with others who in point of efficiency do not come up to the Board's requirements it carries out conditions which the Board has a right in its discretion to impose. If, on the contrary, all women trained in the Dublin incorporated hospitals are excluded by a hard-and-fast rule which at the same time admits to examination women whose practical training is inferior to theirs it cannot be said that the test is fair and reasonable or that it is one calculated to promote the object for which it was devised. The value of personal experience on the part of the candidate for examination is not to be underrated, nor, on the other hand, is the training in midwifery obtainable in the Dublin institutions the position of which was fully recognised by those who framed the Midwives Act. No one questions the high qualifications possessed by the Central Midwives Board to carry out its difficult duties or its desire to do so in the best possible manner without fear or favour. It was not, however, to be expected that a first set of regulations framed under a new Act of such a nature would meet all the requirements of all conceivable cases and there is no obvious reason why supplementary regulations to settle questions arising from time to time should not be framed when needed and approved by the Privy Council. Until April 1st, 1905, qualified women desiring to be midwives can be enrolled as such under the section quoted above and there is time for the Central Midwives Board and the Dublin hospitals to meet one another's views before any hardship can arise affecting the latter and those seeking their training in them.

Looking Back.

FROM

THE LANCET, *SATURDAY*, JAN. 14, 1826.

By far the most popular classification of diseases at present is that adopted by Dr. Cullen, in his work entitled, "Nosologia Methodica;" a work evincing great genius as well as deep research, and which, although objectionable in its principle, as I shall endeavour to show you, is, nevertheless, highly deserving of your attention, from the great mass of historical information it contains. Dr. Cullen's arrangement is founded principally upon the external characters, or obvious appearances, of diseases, a method borrowed chiefly from the writers on natural history, and which was adopted by Linnæus, Sauvages, and others, but which Dr. Cullen greatly extended and improved. An objection to this plan is, that the symptoms of diseases are often so numerous, as well as various, as to make it difficult to bring them within the compass of a definition, or to distinguish easily between such as are essential and those which are accidental merely; and what are only signs or symptoms are often considered as actual diseases, which, in this way, are multiplied to an extreme and unnecessary degree. Thus he makes above a hundred and fifty different *genera* of diseases, many of which are again divided into *species*, terms that imply differences that are radical and essential, to say nothing of *varieties* out of number. The distinctions proper in *natural history* have, however, very little application to the science of medicine; for diseases are, in fact, seldom more than varieties, deviations merely from the natural state; they are not distinct essences, as in the case with *species* in *natural history*. In this respect diseases may be compared with those changes that are induced on plants or animals by culture, climate, &c., and which are so various as almost to defy methodical arrangement. Diseases, fortunately for you, gentlemen, are far less numerous than this system supposes; indeed, were it otherwise—were all the diseases that have different names here assigned to them, essentially different in their nature, the study of physic would be absolutely interminable. The truth is, that the essential differences between diseases are few, whether we regard them theoretically or practically; they are many in name but few in nature; they differ more in their seat than in their nature, according to the observation of Hippocrates, who says, "Omnium morborum, unus et idem modus est; locus vero ipse, differentiam facit."[1]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 9390 births and 5968 deaths were registered during the week ending Jan. 9th. The annual rate of mortality in these towns, which had been 17·8, 15·4, and 20·6 per 1000 in the three preceding weeks, declined again last week to 20·4 per 1000. In London the death-rate was 19·4 per 1000, while it averaged 20·8 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·9 in Barrow-in-Furness, 10·5 in Bournemouth, 11·8 in Hastings, 12·0 in Smethwick, 12·2 in Handsworth, and 13·1 in Walthamstow and in Burton-on-Trent; the highest rates were 24·1 in Salford, 24·6 in Manchester, 24·7 in Stockport, 25·6 in Brighton, 26·1 in Gateshead, 26·7 in Liverpool, 28·5 in Bury, 34·6 in Wallasey, 40·1 in Merthyr Tydfil, and 41·7 in Preston. The 5968 deaths from all causes in the large towns last week included 462 which were referred to the principal infectious diseases, against 423, 389, and 495 in the three preceding weeks; of these 462 deaths 132 resulted from measles, 121 from whooping-cough, 66 from diarrhœa, 60 from diphtheria, 42 from "fever" (principally enteric), 36 from scarlet fever, and five from small-pox. No death from any of these diseases was recorded last week in Walthamstow, Hastings, Southampton, Hanley, Burton-on-Trent, Walsall, Kings Norton, Smethwick, Grimsby, Wallasey, Burnley, Huddersfield, and Stockton-on-Tees; among the other towns

[1] Extract from Lecture No. IX. on the Theory and Practice of Physic by Dr. Clutterbuck at the Theatre, General Dispensary, Aldersgate Street.

they caused the highest death-rates in Willesden, Bury, Preston, Rotherham, West Hartlepool, Gateshead, Newport (Mon.), Rhondda, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Willesden, Bury, Blackburn, Preston, Rotherham, and West Hartlepool; from scarlet fever in Bootle; from diphtheria in East Ham, Northampton, Plymouth, and Bury; from whooping-cough in Leyton, Devonport, Aston Manor, Liverpool, Warrington, Rochdale, West Hartlepool, Gateshead, and Rhondda; and from diarrhœa in Merthyr Tydfil. The mortality from "fever" showed no marked excess in any of the large towns. One fatal case of small-pox was registered in each of the following towns: Warrington, Halifax, York, Sunderland, and Gateshead; no death from this disease occurred in any other of the large towns. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 26, 27, and 26 on the three preceding Saturdays, was again 26 on Saturday, Jan. 9th; six new cases were admitted during the week, against six, seven, and four in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 1659, against 1655, 1617, and 1632 at the end of the three preceding weeks; 201 new cases were admitted during the week, against 188, 142, and 194 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 344, 271, and 404 in the three preceding weeks, further rose last week to 433, and were 77 in excess of the number in the corresponding period of last year. The causes of 93, or 1·6 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Salford, Leeds, Newcastle-on-Tyne, and in 40 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Kings Norton, Aston Manor, Liverpool, Manchester, Sunderland, South Shields, Gateshead, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·9, 20·8, and 21·7 per 1000 in the three preceding weeks, further rose to 23·2 per 1000 during the week ending Jan. 9th, and was 2·8 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 17·5 in Leith and 19·9 in Paisley, to 24·8 in Glasgow and 46·2 in Perth. The 768 deaths registered in these towns included 15 which were referred to whooping-cough, 15 to diarrhœa, 13 to measles, three to small-pox, three to diphtheria, three to "fever," and one to scarlet fever. In all, 53 deaths resulted from these principal infectious diseases last week, against 61, 73, and 71 in the three preceding weeks. These 53 deaths were equal to an annual rate of 1·6 per 1000, which corresponded with the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been nine, 16, and 14 in the three preceding weeks, rose again last week to 15, of which four occurred in Aberdeen, three in Glasgow, three in Dundee, two in Paisley, and two in Leith. The deaths from diarrhœa, which had been 10, 16, and 21 in the three preceding weeks, declined again to 15 last week, and included ten in Glasgow, and two in Aberdeen. The fatal cases of measles, which had been 33, 25, and 26 in the three preceding weeks, declined again last week to 13, of which 12 were registered in Glasgow. The deaths from small pox, which had been two, four, and five in the three preceding weeks, declined again to three last week, and all occurred in Glasgow. The fatal cases of diphtheria, which had been three, four, and one in the three preceding weeks, rose again last week to three, of which two were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 184, 180, and 177 in the three preceding weeks, rose again last week to 213, and were 61 in excess of the number in the corresponding period of last year. The causes of 30, or nearly 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·6, 19·9, and 31·8 per 1000 in the three preceding weeks, declined again to 27·8 per 1000 during the week ending Jan. 9th. During the past four weeks the death-rate has averaged 26·3 per 1000, the rates during the same period being 17·7 in London and 18·9 in Edinburgh. The 202 deaths of persons belonging to Dublin, registered during the week under notice, showed a decline of 29 from the number in the preceding week, and included 23 which were referred to the principal infectious diseases, against 10, seven, and 16 in the three preceding weeks; of these, nine resulted from whooping-cough, five from "fever," three from scarlet fever, three from diarrhœa, two from measles, and one from diphtheria. These 23 deaths were equal to an annual rate of 3·2 per 1000, the death-rates last week from the same diseases being 1·5 in London and 0·3 in Edinburgh. The fatal cases of whooping cough, which had been four, three, and 12 in the three preceding weeks, declined again last week to nine. The deaths from "fever," which had been two in each of the two preceding weeks, increased last week to five. The fatal cases of scarlet fever, which had been one in each of the two preceding weeks, increased to three last week. The 202 deaths in Dublin last week included 32 of children under one year of age and 58 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons were slightly below the respective numbers in the preceding week. Six inquest cases and three deaths from violence were registered, and 59, or more than one-fourth, of the deaths occurred in public institutions. The causes of nine, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING DECEMBER, 1903.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·4 per 1000 of the population, estimated at 4,613,812 persons in the middle of 1903. The rates in the three preceding months had been 6·5, 6·8, and 6·0 per 1000 respectively. The rates were considerably below the average in Kensington, Fulham, Chelsea, the City of Westminster, Hampstead, and the City of London, while they showed the largest excess in Hackney, Holborn, Bethnal Green, Stepney, Poplar, and Deptford. Small-pox was rather less prevalent during December than in either of the two preceding months; of the 22 cases notified during the month under notice six belonged to the City of Westminster, four to Lambeth, three to Stepney, three to Southwark, and two to Wandsworth. The Metropolitan Asylums hospitals contained 26 small-pox patients at the end of last month, against 21, 42, and 40 at the end of the three preceding months; the weekly admissions averaged four, against five, ten, and eight in the three preceding months. The prevalence of scarlet fever showed a slight decline during last month; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in Bethnal Green, Stepney, Deptford, Lewisham, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 1849, 1794, and 1738 at the end of the three preceding months, had further declined to 1606 at the end of last month; the weekly admissions averaged 168, against 241, 210, and 184 in the three preceding months. Diphtheria showed a slightly diminished prevalence during December as compared with that recorded in the preceding month; this disease was proportionally most prevalent in Hackney, Bethnal Green, Stepney, Poplar, Wandsworth, and Deptford. The Metropolitan Asylums hospitals contained 734 diphtheria patients at the end of last month, against 671, 753, and 763 at the end of the three preceding months. The weekly admissions averaged 104, against 114, 121, and 109 in the three preceding months. The prevalence of enteric fever further decreased last month; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in St. Marylebone, Hampstead, Holborn, Battersea, and Camberwell. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 247, 285, and 286 at the end of the three preceding months, had declined to 246 at the end of last month; the weekly admissions averaged 30, against 40, 44, and 45 in the three

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING DECEMBER, 1903.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1903.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,613,812	22	979	669	—	293	2	22	415	—	2407	5·4	1	194	30	77	121	—	56	—	114	593	1·4	7586	17·2	147
West Districts.																										
Paddington	146,032	1	37	7	—	3	—	—	10	—	58	4·1	—	6	1	—	1	—	—	—	4	12	0·9	185	13·2	152
Kensington	178,409	—	21	15	—	9	1	—	10	—	56	3·3	—	16	—	2	—	—	1	—	2	21	1·2	274	16·0	182
Hammersmith	115,803	—	19	22	—	7	—	—	11	—	59	5·3	—	19	1	4	1	—	3	—	4	32	2·9	211	19·0	198
Fulham	147,780	—	15	16	—	5	—	2	14	—	52	3·7	—	22	—	3	2	—	2	—	10	39	2·8	265	18·6	143
Chelsea	74,169	1	5	7	—	1	—	—	1	—	15	2·1	—	5	—	—	1	—	—	—	3	9	1·3	121	17·0	169
City of Westminster	179,052	6	18	20	—	9	—	—	9	—	62	3·6	—	6	—	3	—	—	4	—	1	14	0·8	270	15·7	128
North Districts.																										
St. Marylebone	131,234	—	28	14	—	11	—	1	8	—	62	4·9	—	15	3	2	2	—	3	—	4	29	2·3	284	22·6	148
Hampstead	85,197	—	9	8	—	6	—	—	7	—	30	3·7	—	1	—	1	—	—	—	—	—	2	0·2	93	11·4	136
St. Pancras	235,716	1	60	38	—	11	—	—	23	—	133	5·9	—	2	1	3	7	—	2	—	4	19	0·8	440	19·5	156
Islington	339,137	—	62	36	—	13	—	3	25	—	139	4·3	—	—	2	3	5	—	1	—	2	13	0·4	480	14·8	139
Stoke Newington	52,069	—	13	5	—	1	—	—	4	—	23	4·6	—	—	—	1	4	—	—	—	2	7	1·4	72	14·4	172
Hackney	224,062	—	49	62	—	26	—	1	23	—	161	7·5	—	9	1	7	8	—	6	—	2	33	1·5	355	16·5	125
Central Districts.																										
Holborn	57,845	—	8	5	—	24	—	—	10	—	47	8·5	—	2	—	1	—	—	2	—	—	5	0·9	125	22·5	105
Finsbury	99,717	1	17	7	—	7	—	—	12	—	44	4·6	—	2	4	—	2	—	1	—	1	10	1·0	190	19·9	111
City of London	24,539	—	3	2	—	1	—	—	2	—	8	3·4	—	—	—	—	—	—	—	—	1	1	0·4	34	14·4	194
East Districts.																										
Shoreditch	117,513	—	18	9	—	7	—	—	21	—	55	4·9	—	12	2	1	8	—	—	—	3	26	2·3	231	20·5	151
Bethnal Green	130,028	—	43	27	—	6	—	—	16	—	92	7·4	—	2	1	5	6	—	5	—	2	21	1·7	229	19·2	142
Stepney	302,153	3	97	70	—	18	—	1	35	—	224	7·7	1	7	2	7	8	—	6	—	16	47	1·6	542	18·7	149
Poplar	169,550	—	45	43	—	12	—	2	10	—	112	6·9	—	3	4	3	9	—	1	—	9	29	1·8	306	18·8	162
South Districts.																										
Southwark	207,369	3	28	32	—	14	—	1	33	—	111	5·6	—	3	—	2	5	—	3	—	8	21	1·1	392	19·7	156
Bermondsey	129,801	—	28	4	—	5	—	1	11	—	49	3·9	—	—	—	—	5	—	2	—	2	9	0·7	254	20·4	208
Lambeth	307,711	4	78	21	—	20	1	2	26	—	152	5·2	—	12	2	5	11	—	3	—	8	41	1·4	524	17·8	128
Battersea	173,422	—	32	27	—	20	—	3	9	—	91	5·5	—	3	—	5	7	—	3	—	3	21	1·3	277	16·7	130
Wandsworth	249,678	2	51	49	—	18	—	2	24	—	146	6·1	—	36	2	5	4	—	4	—	6	57	2·4	376	15·7	129
Camberwell	265,562	—	53	29	—	24	—	—	21	—	127	5·0	—	10	2	1	5	—	1	—	6	25	1·0	403	15·8	155
Deptford	112,537	—	36	41	—	6	—	3	23	—	109	10·1	—	—	1	4	8	—	2	—	1	16	1·5	180	16·7	175
Greenwich	99,824	—	12	18	—	4	—	—	6	—	40	4·2	—	—	—	4	11	—	—	—	3	18	1·9	136	16·3	178
Lewisham	136,406	—	47	20	—	7	—	—	6	—	80	6·1	—	1	1	—	—	—	—	—	2	4	0·3	168	12·8	134
Woolwich	121,478	—	47	15	—	2	—	—	5	—	69	5·9	—	—	—	5	1	—	1	—	5	12	1·0	151	13·0	122
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

preceding weeks. Erysipelas was proportionally most prevalent in Holborn, Finsbury, Shoreditch, Bethnal Green, Southwark, and Deptford. The 22 cases of puerperal fever notified during last month included three each in Islington, Battersea, and Deptford, and two each in Fulham, Poplar, Lambeth and Wandsworth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the five weeks ending Jan. 2nd the deaths of 7596 persons belonging to London were registered, equal to an annual rate of 17·2 per 1000; in the three preceding months the rates had been 14·4 14·6 and 16·2 per 1000 respectively. The lowest death-rates in London last month were 11·4 in Hampstead, 12·8 in Lewisham, 13·0 in Woolwich, 13·2 in Paddington, and 14·4 in Stoke Newington and in the City of London; the highest rates were 19·5 in St. Pancras, 19·7 in Southwark, 19·9 in Finsbury, 20·4 in Bermondsey, 20·5 in Shoreditch, 22·5 in Holborn, and 22·6 in St. Marylebone. The 7596 deaths from all causes included 593 which were referred to the principal infectious diseases; of these, one resulted from small-pox, 194 from measles, 30 from scarlet fever, 77 from diphtheria, 121 from whooping-cough, 56 from enteric fever, and 114 from diarrhœa. The lowest death-rates last month from these infectious diseases were recorded in Hampstead, Islington, the City of London, Bermondsey, and Lewisham; and the highest rates in Hammersmith, Fulham, St. Marylebone, Shoreditch, Wandsworth, and Greenwich. The fatal case of small-pox belonged to Stepney. The 194 deaths from measles were 88 below the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Kensington, Hammersmith, Fulham, St. Marylebone, Shoreditch, and Wandsworth. The 30 fatal cases of scarlet fever showed a decline of 48 from the corrected average number; among the various metropolitan boroughs the greatest proportional mortality from this disease occurred in Hammersmith, St. Marylebone, Finsbury, Shoreditch, Poplar, and Deptford. The 77 deaths from diphtheria were less than one third of the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Hammersmith, Hackney, Bethnal Green, Deptford, Greenwich, and Woolwich. The 121 fatal cases of whooping-cough were 40 below the corrected average number; among the various metropolitan boroughs this disease showed the highest proportional mortality in Stoke Newington, Shoreditch, Bethnal Green, Poplar, Deptford, and Greenwich. The 56 deaths from "fever" showed a decline of 36 from the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Hammersmith, the City of Westminster, St. Marylebone, Hackney, Holborn, and Bethnal Green. The 114 fatal cases of diarrhœa were 47 in excess of the corrected average number; among the various metropolitan boroughs the greatest proportional mortality from this disease occurred in Fulham, Chelsea, Stoke Newington, Stepney, Poplar, Southwark, and Woolwich. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was nearly 37 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 147 per 1000. The lowest rates of infant mortality were recorded in the City of Westminster, Hackney, Holborn, Finsbury, Lambeth, and Woolwich; and the highest rates in Kensington, Hammersmith, Stoke Newington, the City of London, Bermondsey, Deptford, and Greenwich.

* Including membranous croup.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon J. Jenkins to the *Ocean* (dated Jan. 9th, 1904). Staff Surgeons: W. E. Marshall to the *Bedford* (dated Jan. 12th, 1904) and J. H. Acheson to the *Latona* (undated). Surgeons: H. Hunt to the *Agincourt*, lent (dated Jan. 12th, 1904); W. Jackson to the *Latona* (dated Jan. 12th, 1904) and to the *Pallas* on recommissioning; H. C. Ross to the *Wildfire*, for the *Immortalité* (dated Jan. 19th, 1904); and L. A. Baiss to the *Andromache*, temporary (dated Jan. 9th, 1904).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel M. W. O'Keeffe joins at Woolwich. Lieutenant-Colonel G. T. Trewman is granted sick leave to March 16th. On arrival from England Captain D. O. Hyde has been posted to the Scinde District. Lieutenant-Colonel W. J. R. Rainsford is appointed Principal Medical Officer of the Thames and Woolwich District.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel T. J. Aubin having attained the prescribed limit of age is removed from the Army Medical Reserve of Officers (dated Jan. 9th, 1904). Surgeon-Lieutenant-Colonel R. T. Cæsar having attained the prescribed limit of age is removed from the Army Medical Reserve of Officers (dated Jan. 9th, 1904). Surgeon-Lieutenant-Colonel F. E. Fenton having resigned his Volunteer appointment ceases to belong to the Army Medical Reserve of Officers. Surgeon-Captain J. McMullen having been retired from the Volunteers ceases to belong to the Army Medical Reserve of Officers. Surgeon-Captain F. St. John Kemm having resigned his Volunteer appointment ceases to belong to the Army Medical Reserve of Officers.

VOLUNTEER CORPS.

Rifle: 4th Volunteer Battalion, the Devonshire Regiment: Surgeon-Lieutenant F. W. Kendle to be Surgeon Captain (dated Jan. 9th, 1904). 3rd (Duke of Connaught's Own) Volunteer Battalion the Hampshire Regiment: Surgeon-Lieutenant C. H. Newby to be Surgeon-Captain (dated Jan. 9th, 1904); Surgeon-Captain C. H. Newby resigns his commission with permission to retain his rank and to wear the prescribed uniform (dated Jan. 9th, 1904).

VOLUNTEER INFANTRY BRIGADES.

Sussex and Kent: Major J. Turton, Sussex and Kent Volunteer Infantry Brigade Bearer Company, to be Brigade-Surgeon-Lieutenant Colonel whilst holding the appointment of Senior Medical Officer (dated Jan. 9th, 1904).

THE SOMALILAND CAMPAIGN.

News from Somaliland of a decisive victory over the forces of the Mullah has been received and published. From the description given it may be gathered that the fight was very much like that of Omdurman over again. It is stated that the forces of the Mullah, who was not personally present, were completely defeated and that a thousand of them were killed. The British list of casualties amounted to 11 killed and 31 wounded, besides one officer missing. It is premature to express any opinion as to what may be the effect of this defeat, but it is sincerely to be hoped that it may help to bring about a speedy termination of the struggle. We regret to notice the loss of Lieutenant J. R. Welland, R.A.M.C., who was killed in the attack.

UNIVERSITY CANDIDATES FOR THE ARMY.

It is interesting to note that the outlines of a scheme recommended by the Advisory Board of Military Education and approved by the Secretary of State for War have been published by the War Office regarding the appointment of candidates from the universities to commissions in the regular forces. The scheme will come into operation in September next. Its intended object is to attract this class of candidates into the army by doing away as far as possible with the disadvantage under which university candidates who have completed their university career by taking a degree at present labour in having to enter the army at a later stage than men who are not university graduates.

DEATHS IN THE SERVICES.

Lieutenant Joseph Rabuteau Welland, R.A.M.C., in the engagement at Jidballi, Somaliland, on Jan. 11th. Born in 1878 he was educated at Trinity College, Dublin, and graduated M.B., B.Ch. at that college in 1900. He entered the Royal Army Medical Corps in the following year and has been attached to the King's African Rifles since 1902.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on Jan. 12th, Sir J. N. Dick, K.C.B., in the chair, the sum of £70 was distributed among the several applicants.

Correspondence.

"Audi alteram partem."

LONDON HOSPITALS AND CENTRAL CONTROL.

To the Editors of THE LANCET.

SIRS,—The correspondent signing himself "Hospital Surgeon" takes a somewhat gloomy view of the prospect of the establishment of any central control over the present London hospital system which he aptly describes as "an extraordinary example of misdirected and overlapping energy and of obsolete arrangements." If we seek at one step to obtain a central board "free to reorganise at its pleasure, to suppress, to establish, to remove, and to amalgamate," it is certain that this step will long be postponed. Such an all-powerful board could be nothing else but the State and hospitals that could be treated in such a high-handed manner by a central body would be entirely unrecognisable as our great voluntary medical charities of which, with all their faults, we are most of us justly proud. Is there no intermediate position between chaos and municipalisation? Many who have given close attention to the hospital question in recent years would certainly be inclined to say that some progress has already been made towards securing voluntary control, though probably at the same time they would admit that not much effect has been produced thereby in coördinating medical charity. It is, of course, through the three great collecting funds for the London hospitals that some slight, though definite and increasing, control is gradually being obtained over the bodies to whom their grants are distributed. The object of the present communication to THE LANCET is to urge those of your readers who are members of the committees of King Edward's and the Hospital Sunday and Saturday Funds to consider whether these committees might not by united action gain still further control over the medical charities. The proposed line of such united action would be as follows.

Each of the three funds should appoint delegates in order to form a Metropolitan Voluntary Hospitals Board. The proportionate number of delegates from each committee should be determined by the average annual income of its fund. The board might have powers of coöption and possibly some other public bodies might be granted rights of nomination upon it, but the majority of the board should be composed of actual members of the committees of the three collecting funds. To this board should be intrusted the distribution of a certain proportion, say one-fourth, of the annual income of each fund. The conjoint fund produced by thus "pooling" one-fourth of each of the three funds should be distributed on a special plan which is an essential part of the present proposal. To every hospital previously chosen by the board as worthy of receiving its support there should be given a share of the conjoint fund proportionate to the sum which the hospital's supporters had raised in voluntary contributions to their charity during the preceding year. No hospital should be allowed to participate in the conjoint fund which would not admit to its governing body one or more persons nominated by the board. There is no doubt, I think, that this method of a central body proportionately increasing voluntary local contributions, sometimes called the Australian system, with the principle and efficacy of which we have all been made familiar by Mr. Herring's generosity to the Sunday Fund, would be very popular with the hospitals themselves. Its popularity would, I think, enable the hospitals to put up with the nominated governor who under other conditions would be obnoxious to some committees. It should certainly insure greater enthusiasm in the local collection of funds—an enthusiasm which is likely to wane if the present methods of making grants by these three funds are alone adhered to.

I put this proposal forward at the present time when other proposals for the establishment of central boards are in the air because it seems to me advisable whenever possible to utilise existing agencies instead of introducing new competitors. The three funds each appeal to a separate *clientèle*; each has regard to special and different features of economy and efficiency in making its grants. All are well established, steadily growing, and doing most excellent work. Their power for good would be immensely increased by the formation of a central board to coördinate their work, especially if the formation of such a board enabled them to get into closer touch with the hospitals by means of the nominees of the board upon the governing bodies. The establishment of the board might be expected to increase the incomes of the central funds and to lessen the deficits at the hospitals which it is their chief aim to meet. Am I too optimistic in suggesting to "Hospital Surgeon" that by such concerted action as I have here outlined an effective step would be taken towards removing some of the defects of our want of system without at the same time destroying the great voluntary hospitals which are amongst the most honourable features of this city?

I am, Sirs, yours faithfully,

London, W., Jan. 11th, 1904. LAURISTON E. SHAW.

CARDIAC DROPSY IN MITRAL STENOSIS.

To the Editors of THE LANCET.

SIRS,—I have been struck by the fact that in patients who suffer from mitral stenosis general œdema supervenes at a much later stage in the course of the disease than is the case in mitral regurgitation. Dr. A. E. Sansom[1] writes: "Generally speaking, in cases of mitral stenosis œdema is not nearly so marked a symptom as in the cases of mitral insufficiency. A fugitive and slight œdema occurs in many of them, but general dropsy rarely until the final stages, when the right chambers of the heart have become dilated and the tricuspid valve incompetent; many patients die before this stage is reached." In the final stages, however, œdema is very commonly present, as has been shown by an analysis of 143 cases of cardiac dropsy in which post-mortem examinations were made, since mitral stenosis was found to be present in 68.[2] Œdema in the last stages of mitral stenosis is a condition which would naturally be expected to be present and it would be surprising if it were not found to occur. My object is to endeavour to account for the absence of general œdema in the earlier stages of the disease. The explanation of the phenomenon is naturally difficult and any opinion of its causation which may be expressed must of necessity be conjectural.

A patient suffering from mitral stenosis has not usually the appearances which are so suggestive of the other forms of cardiac disease. There is not the pale and anxious expression so frequently present in diseases of the aortic valves or the congested appearance of the face and the bluish tint of the lips and ears which are so often seen in mitral regurgitation, but, to quote the words of Sir William H. Broadbent,[3] the face has "a good colour and cheerful expression, the lips perhaps being of too crimson a shade of red." At post-mortem examinations the heart in mitral stenosis is not usually found to be so large or its chambers to be so dilated as in mitral regurgitation. On account of the breaking down of the compensation of the heart the consequent dilatation of the cardiac chambers tends to obscure any previous hypertrophy of their walls. For reasons which will be explained later it seems probable that in mitral stenosis there are a considerable amount of compensatory hypertrophy of the walls of the left auricle and very little dilatation of its chamber. If hypertrophy of the left auricle be the usual result of narrowing of the left auriculo-ventricular orifice then failure of cardiac compensation is not so likely to occur or dropsy to supervene until late in the disease, because, as long as the walls of the left auricle continue to undergo hypertrophy they may have sufficient power to overcome the obstruction to the passage of blood into the left ventricle and may be able to prevent any undue and increased strain being thrown upon the right side of the heart. In support of the view that there are hypertrophy and only slight dilatation of the left auricle in mitral stenosis, Dr. D. W. Samways,[4] on making an analysis of 70 cases from the records of Guy's Hospital for the years 1888-91 inclusive, in which this valvular lesion was found to be present at the post-mortem examinations, ascertained that hypertrophy of the walls of the left auricle was present in 36 of the cases. He divided the cases into two classes: those in which the stenosis was severe (in which the orifice would only just

[1] Sansom: Allbutt's System of Medicine, vol. v., p. 1023.
[2] Idem, p. 683.
[3] Broadbent: International Journal of the Medical Sciences, 1886, p. 57.
[4] Samways: Brit. Med. Jour., November, 1896, p. 1567.

admit one finger) and those in which the stenosis was less severe than this. There were 36 cases of the former class and 34 of the latter. In 15 cases of the severe form of stenosis there was hypertrophy of the walls of the left auricle with no dilatation of its cavity, in 11 there was hypertrophy with dilatation, in three dilatation alone was recorded, and in seven there was no note made as to the condition of the left auricle. Hypertrophy, therefore, was found in 26 and dilatation in 14 of the cases. Of these 70 cases, 18 came from the surgical wards and in only one of these was dilatation recorded and in this case was associated with hypertrophy of the walls of the auricle. There is therefore considerable post-mortem evidence that hypertrophy of the walls of the left auricle occurs in this valvular lesion.

Again, Dr. T. D. Acland[5] says: "In cases of mitral obstruction, in which the auricle might be supposed to have extra active work thrown upon it, hypertrophy is more marked than in simple regurgitation." Cardiographic tracings of patients suffering from mitral stenosis also indicate that the left auricle is considerably hypertropied, since these records show an abnormal magnitude of the elevation caused by the auricular systole. The auricular systole is sometimes so exaggerated as to be sufficiently powerful to thrust the heart forwards against the chest wall, and so to make the cardiac impulse commence before the ventricular systole. When compensation begins to fail the elevation caused by the auricular systole becomes greatly diminished and may even disappear. The evidence therefore is in favour of the view that the walls of the left auricle are usually hypertrophied and that its cavity is not dilated or only to a slight extent. The question which naturally presents itself is, Why does hypertrophy of the walls of the left auricle, with very little dilatation of its chamber, occur in mitral stenosis when in mitral regurgitation there are generally a considerable amount of dilatation and only slight hypertrophy?

In mitral stenosis as the left auriculo-ventricular orifice becomes diminished in size the increased strain is chiefly felt by the left auricle during its own systole, since during its diastole the blood is being drawn through the mitral opening by the suction action of the dilating left ventricle. The time occupied by the auricular systole corresponds to about one-tenth of the whole of the cardiac cycle, although when there is mitral obstruction this period is undoubtedly lengthened. It is only during this short period in each cardiac cycle that there is thrown upon the walls of the left auricle an increased strain, which is caused by the greater force required to drive the blood through the narrowed mitral orifice. In consequence the muscular tissue has time to adapt itself by undergoing hypertrophy, since the extra amount of work it is called upon to perform is only gradually increased and only exists for a short period during each cardiac cycle. In mitral incompetency, on the other hand, some blood is regurgitated during nearly the whole time occupied by the ventricular systole, so that the strain on the left auricle is more suddenly increased and continues over a longer period of the cardiac cycle than is the case in the former condition. This might cause some hypertrophy of the left auricular walls, but it is obvious that the conditions are not nearly so favourable for this protective change to take place as they are in mitral stenosis. The chamber of the left auricle will tend to become dilated as it has to contain the regurgitated blood from the left ventricle as well as that entering from the pulmonary veins. It is necessary in mitral regurgitation for the left auricular chamber to be larger than in health, in order that it may hold the increased amount of blood which is poured into it from these two sources during the ventricular systole. In mitral stenosis the increased strain is thrown on the left auricle during its systole, whereas in mitral regurgitation it is placed upon it during its diastole, and "it is a generally recognised fact that a very effective cause in producing dilatation of the cavities of the heart is undue distension during diastole, and that if nutrition is well maintained obstruction during systole tends rather to cause hypertrophy."[6] The result is that the walls of the left auricle tend to become hypertrophied in mitral stenosis, whereas in mitral regurgitation the tendency is for the cavity of the auricle to become dilated.

The changes which occur in the right side of the heart must not be forgotten, since very early in mitral stenosis there is hypertrophy of the right ventricular walls, so that at the end of the ventricular systole the left auricle would probably contain more blood than in health. As a result of this hypertrophy there is some tendency for the left auricle to become distended: but the distension would not be nearly so great as in mitral regurgitation, and the increased strain would quickly be reduced by the diastole of the ventricles. With a hypertrophied condition of the walls of the left auricle there will not be so much strain thrown on the right side of the heart as there would be if the cavity of the left auricle was distended and the power of its contractions was diminished. The smaller the chamber of the left auricle the greater power has its contracting walls to drive the blood onwards. This has been pointed out by Mr. Robert H. Woods[7] who has shown that "the blood pressure inside a contracting cardiac chamber varies inversely as the radius of the chamber," and that "if the increasing thickness of the contracting walls be also taken into consideration the blood pressure must finally increase inversely as the cube of the radius."

From these considerations it would appear that the left auricle is placed in much better circumstances to deal with the impeded flow of blood through the heart in mitral stenosis than it is in mitral regurgitation. The result of this compensatory hypertrophy of the left auricle in mitral stenosis is that the other chambers of the heart do not become so early dilated as in mitral regurgitation, and the cardiac dropsy, which so easily appears in the latter valvular lesion, does not present itself until late in the disease. We may conclude, therefore, that hypertrophy of the walls of the left auricle is the chief factor in maintaining cardiac compensation in mitral stenosis, and that it is only after the auricle has begun to fail, which does not occur until late in the course of the disease, that the right ventricle and auricle dilate and dropsy supervenes.

I am, Sirs, yours faithfully,

JAMES E. H. SAWYER, M.A., M.D. Oxon.,
late house physician at St. Thomas's Hospital and at the Bethlem Royal Hospital, London.

[5] Acland: THE LANCET, July 20th, 1889, p. 103.
[6] Acland: loc. cit.

MALIGNANT GROWTHS AND NORMAL REPRODUCTIVE TISSUES.

To the Editors of THE LANCET.

SIRS,—We were greatly interested to learn from the letter appearing in THE LANCET of Jan. 2nd under the above title that Dr. G. T. Beatson had as long ago as 1896 put forward the view "that the active processes seen in a cancerous tumour are best explained by regarding the epithelium of the part as having taken on the properties and powers of germinal epithelium." Though with our present knowledge the term "germinal epithelium" can hardly be applied to cells which are destined immediately to undergo, or have undergone, a reduction division, to which we have applied the terms "gametogenic" and "gametoid," the former to those occurring normally, the latter to those whose presence is abnormal, it would have been difficult at the time he wrote for Dr. Beatson to have come nearer to the facts since demonstrated by us. There are, however, a few points with regard to our paper to the Royal Society which this letter leads us to believe would be elucidated by a brief explanation.

While there is a vague similarity in many respects between the general idea suggested by Dr. Beatson and those conclusions which we have drawn from our definite cytological investigations of malignant growths, we must state that we differ from him in many important details which space will not at present allow us to discuss. We would, however, draw attention to the following points. The chief conclusion drawn by Dr. Beatson from his clinical observations was, as far as we are able to make out from a careful perusal of his original paper, that the ovaries and testicles exercise "a control in the human body over local proliferations of epithelium" and that "the removal of the tubes and ovaries has an effect upon the local proliferation of epithelium which occurs in carcinoma of the mamma." To these conclusions he was led by his clinical observations of several cases, particularly of one of carcinoma of the breast where he removed the ovaries and tubes of the patient. In this case the carcinoma was apparently cured, Dr. Beatson attributing the cure to

[7] Woods: Journal of Anatomy and Physiology, vol. xxvi. Quoted from Dr. D. W. Samways, Brit. Med. Jour., January, 1897, p. 200.

the removal of the ovaries. Our observations upon malignant growths have, on the other hand, been entirely microscopical and we have simply described what we have seen and are able to demonstrate. We express no opinion, one way or the other, as to the possible influence of the ovary or testicle upon the production or growth of malignant tumours.

We would lay particular stress upon the fact that we have shown that cells which have been for a long time carrying out specialised somatic functions may, under certain conditions, become gametogenic and go through a reduction division. In certain plants this occurs normally. In mammalia certain cells in the genital organs are set apart at some period during the life of the organism to produce sexual germ cells, and in these at the proper time reduction takes place normally. When, however, reduction division takes place in other somatic cells abnormally the growth possesses not only a parasitic character but is also malignant. This reduction division may apparently take place anywhere and in any kind of tissue and the presence of such cells enables us to differentiate between benign and malignant growths. With regard to Dr. Beatson not being sure about our statement as to the exact mode of development of normal gametogenic cells, we would merely point out that the features of this particular metamorphosis are matters of common knowledge among cytologists.—We are, Sirs, yours faithfully,

J. B. FARMER.
J. E. S. MOORE.
CHARLES WALKER.

Royal College of Science, London, Jan. 11th, 1904.

SPIRAL FORMATIONS IN RELATION TO WALKING, SWIMMING, AND FLYING.

To the Editors of THE LANCET.

SIRS,—Never have I had the privilege of reading so interesting a study of spiral formations as that contributed by Professor J Bell Pettigrew to THE LANCET of Jan. 2nd. I speak with natural diffidence in the matter, but with the exception of some papers by Dr. George Wherry on similar subjects I can recall no other publications that deal with spirals in the same way, and the honour done me by the mention of my name in your columns leads me to congratulate myself not only on having directed Professor Pettigrew's attention to the publication of a combined form of research which others have lamentably neglected but also on the value to the second edition of "Spirals in Nature and Art" of many new materials thus placed within my reach. How much more I should have appreciated so illuminating an article a little earlier I need scarcely say, and if Professor Pettigrew had only had an opportunity of reading my preliminary notes on this subject in their original form I should have been only too glad to embody in my first edition those corrections which would have so much improved it, especially in the case of the two diagrams, the correct authorship of which I acknowledged last July both in *Nature* and the *Athenæum*.

It is unexpected news both to my readers and myself that "the great interest taken in artificial flight of late years ..... has been heightened by the publication (1903) of a small work" which has special reference to the architecture of an open staircase in Touraine. In that little book, I must repeat, the subject of flight was only a side issue and the name of Professor Pettigrew is mentioned with all the respect it deserves in connexion with the beautiful spiral fibres of the ventricle of the heart. But his article in THE LANCET of Jan. 2nd compels me to inform you that I knew nothing more about him or his researches into flight until last June. This may seem stranger to him than it does to those who have been willing to accept me merely as a modest inquirer into various subjects of general interest which scientific specialists seem far too much inclined to keep to themselves, or to conceal in literature apparently written for a select audience and certainly published on a scale by no means commensurate with its importance.

Professor Pettigrew says, that "in none of Leonardo's manuscripts and in none of his figures is the slightest hint given of his having any knowledge of the spiral movements made by the wings in flight." That anyone of the scientific accuracy of Professor Pettigrew should thus be in a position involving complete knowledge of all Leonardo wrote or drew is a revelation which every lover of art and science will warmly welcome. I have only about 500 photographs, in my own possession, of Leonardo's original MSS. on many various subjects; and I have only seen in many cities of Europe those MSS. hitherto known to be in existence. I recognise with pleasure that Professor Pettigrew must have larger sources on which to base his general statement. Of course, he does not solely depend on the one MS. he quotes. Yet even as to this MS. alone I venture to adhere to my original opinion, basing it on general considerations of the translation of the Italian dialect and of the value of evidence with which I am not wholly unacquainted. Leonardo's ideas of flight may not be those of Professor Pettigrew, yet I must respectfully, but finally, refuse to accept the Professor's conclusions as to Leonardo's omissions.

Professor Pettigrew need be under no apprehension that either his own scientific reputation or that of England in the nineteenth century will be lessened by my remarks on Leonardo's manuscripts. He does me too much honour. It seems scarcely likely, to take a parallel instance, that anyone will think less of Lyell if I point out that Leonardo calculated a period of 200,000 years for the accumulations at the mouth of the Po and explained the meaning of the strata in the Apennines revealed by the cutting of the river Lamona. English scholars have naturally made a great advance on the investigations of Leonardo in botany, hydraulics, anatomy, morphology, astronomy, optics, and flight. But though the discovery of Leonardo's manuscripts has proved that several of their results were anticipated by the Italian I cannot believe that the reputation of our countrymen has been thereby diminished, even if patriotism were a serious consideration in scientific or artistic questions. It is the recognition implied, not only of the bond between various special forms of science, but also of the general interest involved in each department of it, which leads me to welcome so warmly the publication in your columns of Professor Pettigrew's valuable collection of examples of spiral formations, the forerunner, I hope, of many others from the same able pen. I should not be alone, for instance, in welcoming some description of the advance in our knowledge of the conchoid curve since Albrecht Dürer, or of the new conceptions of phyllotaxis introduced by Mr. A. H. Church to supersede the theory of Bonnet and the mathematics of Calandrini. I venture on these suggestions because it seems to me that by such publications as that of Jan. 2nd you advance once more the ideal which has so often animated your pages and which I could wish were more widely appreciated elsewhere—I mean the ideal of bringing the results of modern scientific research before the notice of the public in a form which should prove not only advantageous to the general wellbeing but also conducive to the larger amenities of life.

I am, Sirs, yours faithfully,

Jan. 7th, 1904. THEODORE A. COOK.

THE BORDERLANDS OF INFECTIOUS DISEASES AND THEIR MANAGEMENT.

To the Editors of THE LANCET.

SIRS,—This controversy has tended to bifurcate and there are now two distinct points at issue—the soundness of my original contention and the value of isolation hospitals. As to the former, I find myself engaged with Dr. Clement Dukes and Dr. E. W. Goodall, both of whom I must thank for their help in elucidating what may have been obscure in my former communications. May I reply to Dr. Dukes under the categorical heads that I suggested and that he has kindly followed?

1. Here we have an assertion and a metaphor. I will not do Dr. Dukes the injustice of taking his parable of the wheat and the soil as an argument from analogy; that he surely cannot have intended. But I freely adopt his metaphor. An agriculturist goes forth to sow. He takes wheat (bacteria) and sprinkles it on soil (potential patients). The wheat germinates and produces, not wheat after its kind (bacteria), but something else (diseases)! Is this breeding true? I have accepted the metaphor. I claim that the wheat shall produce wheat, bacteria produce bacteria. Where does the disease come in? I follow the metaphor. The wheat in its growth produces certain changes in the soil; the bacteria in their growth produce certain

changes in the patient. These changes we call disease. Still following the metaphor we can see that the changes produced in the soil by the growth of wheat (scarlet fever) may be remarkably like (very little different from) those produced by barley (diphtheria). In a field in which there are much wheat and a little barley the changes in the soil may be still more puzzling. In a field in which both are growing in about the same proportion it may be difficult to say which is the predominating factor in producing the changes noted. A blast of wind carries some ears of wheat, or barley, or both into the next field (infection). The wheat alone may germinate, or the barley, or both, or neither, or much of one and little of the other, or little of the one and much of the other. Thus many sorts of soil changes may be produced in the next field more or less resembling those in the original field. I need not dwell on the comparative fertility of various soils (patients); the importance of this element as a further complicating factor in the problem is obvious. It seems to me that Dr. Dukes has fallen into the error of confusing phenomena with noumena—the manifestations of disease with the essences underlying those manifestations.

2. These I think are described, inadequately doubtless but at a little length, in my paper. Dr. Goodall has very handsomely given the *cachet* of his authority to the accuracy of my descriptions of them; perhaps in view of what has come to light since he may be inclined to reconsider his previous comment on the sad and remarkable nature of the impulse that moved me to set forth such banalities at such length.

3. Now that Dr. Dukes has intimated that bacteria are "poisons" and that "generate" signifies "are the cause of," I do not hesitate to commit myself to the opinion that in the popular sense of the word "cause" particular bacteria are the cause of cholera, plague, tuberculosis, and diphtheria; that is to say, that the presence of a particular bacterium is a necessary antecedent condition. In the philosophical sense—the sense in which Mill used the word, "the sum total of conditions"—of course bacteria are not the cause.

4. Under this head the second question—the value of isolation (aggregation) hospitals—is raised. It is my turn to feel a little resentment here, resentment that Dr. Goodall should stigmatise my statement (quoted by Dr. Dukes) as "somewhat loose." In the Metropolitan Asylums Board's hospitals for the last five years for which figures are available—1898-1902—2562 scarlet fever patients suffered from diphtheria during convalescence. The number of diphtheria patients that suffered from scarlet fever during convalescence is not stated, but speaking from my own experience I should say that the proportional incidence was about the same. One would, therefore, probably be not far from the truth in saying that 4000 scarlet fever and diphtheria patients suffered from diphtheria and scarlet fever respectively during convalescence in the quinquennium under notice. I leave out of account attacks of measles, whooping-cough, chicken-pox, and rubella, and ask Was I not justified in referring to the "constant outbreaks"? I should like it to be noted that far from imputing blame I was merely referring to some of the disabilities under which medical officers laboured. Dr. C. Killick Millard has already pointed out the inconsistency displayed by Dr. Dukes in condemning isolation hospitals and resisting an inquiry into them in the same breath. The purpose of such an inquiry would be to investigate the functions of isolation hospitals; how far they succeed in fulfilling those functions; in what do they fail (if they do fail); how far the causes of failure are capable of removal; and, finally, if the net good done by the system does not justify their existence, how far their resources can be diverted into more useful channels. Surely, a most commendable object.

Now, Sirs, on this question of inquiry may I point out that within the last three months the demand for such an inquiry, or a cognate proposal has received support from the following independent quarters:—The Southern Branch of the Society of Medical Officers of Health, resolution, Oct. 23rd, 1903, and (I have just been informed unofficially) the North-Western Branch of the same society; the *Medical Press and Circular*, leading article, Dec. 30th, 1903; public expressions of opinion by Dr. A. Mearns Fraser (medical officer of health of Portsmouth), Dr. Killick Millard (medical officer of health of Leicester), Dr. Meredith Young (medical officer of health of Stockport), Dr. E. Casey (medical officer of health of Windsor), Mr. E. D. Marriott (Nottingham), Mr. W. Moore (Stourport), and Mr. H. Beale Collins (Kingston-on-Thames). Moreover, besides these definite statements of opinions, dissatisfaction with some features of isolation hospital administration as at present conducted has been exhibited by the *British Medical Journal*, leading article, Oct. 3rd, 1903; the *Sanitary Record*, sub-leader, Jan. 7th, 1904; *Public Health*, leading article, January, 1904; public expressions of opinion by Dr. Dukes (Rugby), Dr. F. Graham Crookshank (medical officer of health, Barnes), and others.

The spirit of unrest that manifests itself in these utterances in the short space of three months must surely spread, not only within the profession but also to the public whom we serve and whom we seek to guard. By an independent critical inquiry within the profession we may forestall and even disarm the indignation that seems certain to follow the carrying of these polemics into the public arena. Shall we have such an inquiry or shall we await the greater damnation? I am, Sirs, yours faithfully,

Eastbourne, Jan. 10th, 1904. HUBERT E. J. BISS.

OTOSCLEROSIS.

To the Editors of THE LANCET.

SIRS,—Dr. D. Chalmers Watson's paper in THE LANCET of Jan. 9th, p. 84, proves that aurists have some difficulty in accounting for some of the diseases of the middle ear. He concludes with these words: "While I have just stated that in my opinion we have to deal in all cases of non-suppurative middle-ear disease with a local reaction to bacterial invasion *viâ* the Eustachian tube *we must remember the possibility of the coexistence of an infection by the blood stream. This is probably a factor in many cases, more particularly in those in which there are clinical manifestations of disease usually designated as rheumatism or gout.*" The words which I have put in italics are most suggestive and it is highly probable that the state of the blood has more to do with ear diseases than aurists have yet recognised or are inclined to admit. Even Ménière's disease, which is supposed to depend upon disease of the internal ear, may be found to depend upon rheumatism or gout. Dr. W. Russell contends that arteriosclerosis and the protean troubles that follow in its train depend upon auto-intoxication, which is now receiving much attention at the hands of physiologists. I met with a case of Ménière's disease which in this connexion is worthy of notice. The patient was a man 45 years of age, whose case had been diagnosed by one of the leading aurists in London as Ménière's disease. He was advised by the aurist to cycle to reduce his weight. He continued, however, to have an attack of vertigo and sickness, &c., every week until he gave up eating butcher's meat, when he went eight weeks without an attack and was from home at the time it occurred. The next attack did not occur for eight months, was comparatively mild, and the last he had until he began to eat butcher's meat again. Taught by such experience he determined to avoid butcher's meat entirely and now he has no such attacks, but the noise in the ear remains as before. It is worthy of note that his mother had periodic attacks of vertigo and sickness (which she called "delirium tremens") without any ear symptom whatever.

If then, the worst symptoms of Ménière's disease can be relieved or banished by simply omitting butcher's meat from one's dietary, are we not entitled to conclude that diet must have to do with the causation of the disease, that it, in fact, may be a manifestation of auto-intoxication and be one of "the clinical manifestations of disease usually designated as rheumatism or gout." I commend the study of the question to physiologists and aurists as well as to the general practitioner. I am, Sirs, yours faithfully,

JOHN HADDON, M.D. Edin.

Denholm, Hawick, Jan. 12th, 1904.

THE LUNG REFLEX OF ABRAMS.

To the Editors of THE LANCET.

SIRS,—You have been so liberal in affording me space in your columns lately that I feel I ought to make the present letter as short as possible. I am glad to find Dr. Auld acknowledging that the inspiratory muscles are the chief agents in maintaining pulmonary suction and also that their action has to be taken into account, in addition to passive recoil of the thorax and diaphragm, in explaining reflex pulmonary expansion. Dr. Auld opposes my "oft-repeated

and novel plea that the inspiratory muscles are 'ever busy' and 'moment by moment' keeping up pulmonary tension," on the ground that they do not act during expiration. Surely this is a mere word quibbling. Should I be wrong in saying that the heart is "ever busy" and "moment by moment" keeping up the circulation because each contraction of that doughty organ is followed by a period of relaxation? But as a matter of fact I much doubt the correctness of Dr. Auld's assumption that the inspiratory muscles do not contract during expiration. So far as I can judge from my own organism inspiration is followed not by a sudden but by a gradual relaxation of the inspiratory muscles: during inspiration there appears to be a *crescendo* contraction of these muscles and during expiration a *diminuendo* contraction of them. But whether this is the case or not does not affect the general truth of my contention, for even granting (which I do not) that the inspiratory muscles are relaxed during the whole expiratory phase, their effect in augmenting pulmonary tension above its level at the end of expiration is practically continuous, the mean inspiratory increase in tension being practically equalled by the mean expiratory decrease.

Dr. Auld is of opinion that my "comments on the reflex of contraction are peculiarly unfortunate" but the evidence he adduces in support of this opinion is quite valueless. My contention is that in lungs inclosed within the thorax a momentary contraction of the bronchioles, even to the extent of their entire obliteration, will tend not in the direction of collapse but rather of distension of the vesicles belonging to them. Dr. Auld thinks this view is "peculiarly unfortunate" because it can be shown in the physiological laboratory that lungs whose tubes are made to contract by vagal stimulation diminish in volume. Of course they do when their surfaces are subjected to a positive pressure and not, as when inclosed in the thorax, to a negative one; but even so this diminution in volume does not imply a diminution in the volume of the vesicles: a diminution in the capacity of the tubes would alone suffice to produce it. As Dr. Auld appeals to physiological experiment I would ask him if he has ever seen sufficient pulmonary condensation produced by vagal stimulation to cause a darkening in the fluoroscopic field or a recognisable dulling of the percussion note? Dr. Auld has produced no experimental evidence, nor advanced any sort of *a priori* argument, against the contention he denounces in such *ex cathedrâ* terms. I maintain that a momentary contraction of a bronchiole cannot possibly lead to a diminution in the amount of air contained in the vesicles pertaining to it (by *momentary* I mean lasting a few seconds); and, further, that inasmuch as in the closed thorax the lungs cannot break away from the parietal pleura the vesicles belonging to a momentarily contracting bronchiole will tend to increase in volume by the extent to which that bronchiole diminishes.

I am, Sirs, yours faithfully,

Wimpole-street, W., Jan. 10th, 1904. HARRY CAMPBELL.

*** We must now apply the closure to this correspondence, to which we have allowed a liberal amount of space.—ED. L.

A CASE OF ASCITES RAPIDLY CURED ON THE ADMINISTRATION OF IODIDE OF POTASSIUM.

To the Editors of THE LANCET.

SIRS,—A case under the above title which is reported in THE LANCET of Jan. 2nd, p. 24, by Dr. J. A. W. Pereira reminds me of an interesting paper read by the late Dr. J. S. Bristowe before the Medical Society of London on Feb. 15th, 1892,[1] entitled "Observations on the Cure or Subsidence of Ascites due to Hepatic Disease." One of the cases on which his paper was based was that of a woman, aged 24 years, belonging to a respectable and wealthy family. The patient had a profuse attack of hæmatemesis followed by ascites and she was tapped no less than 27 times. At one time the edge of the liver was detected below the ribs and in it a small nodule. This led to the diagnosis of malignant disease of the liver. It was, however, ascertained accidentally that a brother of this patient had been under treatment for some congenital syphilitic affection of the eyes. This discovery led to the suspicion that the lump in the liver might be a gumma. Iodide of potassium and solution of the perchloride of mercury were ordered with the result that the patient attained to better health than she had had for years. This case, together with that reported by Dr. Pereira, certainly emphasises the necessity of carefully considering the possibility of a gumma in obscure cases of ascites and giving the patient full doses of iodide of potassium in suspicious cases.

I am, Sirs, yours faithfully,

Jan. 5th, 1904. F. DE HAVILLAND HALL.

[1] THE LANCET, Feb. 20th, 1892, p. 422

THE POINT OF PRIMARY GONORRHŒAL INFECTION IN THE FEMALE.

To the Editors of THE LANCET.

SIRS,—On previous occasions you have courteously permitted me to encroach on your valuable space and I now ask again the same privilege in order to make a few observations on a subject which has interested me very much during the 25 years I have had the honour of belonging to the profession. I write in the interest of the general practitioner who, like myself, may be beyond the pale of laboratories, &c., and not in any sense pretentiously. I say this not to disarm criticism but rather to court it from those who are in a position to teach us.

There is a great number of women, especially primiparæ, who suffer from fever after childbirth and in whose cases it is simply impossible to lay the blame on the accoucheur or any other person who has participated in the event. These cases in the past oftentimes were recorded as "idiopathic," or the physician, after going over every step in the conduct of the labour and finding nothing wrong so far as he could judge, decided that there must have been a leak somewhere and mutely blamed himself for some act of omission or commission which he could not recall. Nowadays the word "idiopathic" has almost, if not quite, disappeared from our vocabulary, but the cases still remain to puzzle the unfortunate medical attendant and they are those to which I desire, with your permission, to draw attention.

For a number of years I have been in charge of the venereal hospital of this city where all the licensed prostitutes are examined twice a week and where the "free lances" captured by the police are taken, often in squads every day, for examination. Thus several thousand examinations are made annually. When any one of these prostitutes, licensed or clandestine, is found suffering from any form of venereal disease she is detained for treatment until recovery. The first thing to be noted in such a service was the fact that almost every prostitute who had been such for any time suffered from cervical endometritis. This was no new discovery, but as time went on I noticed that women with urethritis or vaginitis almost invariably had endometritis (cervical) also. The combination might not even then have aroused any particular line of thought, but have been accepted as quite *en règle*, had I not observed on several occasions a woman "slated" for cervical endometritis a few days later developing a urethritis without in the interval having had any opportunity for sexual contact. On making a microscopic examination of the cervical discharge in a few of these cases of endometritis only I was able not infrequently to recognise the diplococcus of Neisser and even to make cultures. Many times the microbe could not be demonstrated but abler men than I have been baffled, especially if the case be chronic. After eliminating all doubtful cases of former infection there have remained 154 complete observations on indubitable first "doses." As a natural consequence I was led to conclude that the teaching of both the English and French schools in which the vagina or the urethra is said to be the starting point of infection was erroneous and that the primary point of attack is the cervix, the other parts being contaminated secondarily.[1] In other words the contagion descends and does not ascend. This is the rule and the exceptions are rare and accidental. Has it been demonstrated that the gonococcus has the power to climb or of innate locomotion? I herewith emphatically express a doubt of the direct surface extension of gonorrhœa from the vulva upwards to the womb, and my object is not to raise a quibble but has a very serious bearing on the

[1] In the German Congress of Gynæcology held in Vienna in 1895 Wertheim had the audacity to give it as his opinion as against all comers that "next to the urethra the most frequent site of gonorrhœal infection is the uterus. The infection of the uterus frequently takes place directly and in many cases it alone is infected." Since then I do not know that he has advanced. I go a long step forward, putting the womb in the forerank and the other organs well behind. I only came across the record of this special congress after having completed the above communication. Had I known in time that anyone had come so near my own opinion (so near and yet so far) I should not have written this letter.

possibility of preventing the terrible after-results in those women who have unfortunately contracted the disease. At present I believe our energies are all misdirected. We direct our efforts to the treatment of the urethra or vagina hoping to avert the infection of the uterus when in reality the evil has already been consummated.

There is no need for me to speak of the teachings of Schroeder, Pozzi, Doléris, Bumm, Steinschneider, Goenner. Döderlein, Strauss, Kaltenbach, Fehling, and a host of others who recognise the gonococcus as one of the causes of puerperal septicæmia, in contradiction to the opinion of Czernewiski[2] that the streptococcus pyogenes causes all the septic lesions of parturition. Many of these have been hovering over the idea above indicated but have never asserted it as a fact. Perhaps they have had some reason for not interpreting the observations they made as I have done, and I may justly be censured as an incompetent observer. I am cognisant, too, of the work of recent years on the gonorrhœal infection of certain organs through continuity of mucous membranes but at least these membranes are differently "shod" than the vagina, their secretions are not inimical to the life and propagation of the gonococcus as is that of the vagina, nor are they inhabited continually by a horde of other germs which are ready to prey on a succulent animalcule. The vagina, in its upper fourth especially, and more so in pregnant women, is a perfect nest for pathogenic microbes, for the most part attenuated (Winter) and deprived of their virulence, except when aroused by some special cause such as the invasion of the gonococcus. Then they arise in their might to expel the invader. In the male urethra, for example, things are very different. It is lined throughout with columnar epithelium except at the meatus where it is laminated (Gray). Its mucous membrane is full of all kinds of crypts and ducts lined with the same kind of epithelium, forming underground railways, so to speak, which can serve for the conveyance of the microbe to the posterior urethra, prostate, &c., and which serve, too, as shelters from its enemies, chemical and otherwise.[3] Cases have likewise been reported of the direct passage of the germ up the ureter to the kidney, producing uretero-pyelonephritis. According to some observers this requires first a gonorrhœal cystitis, while others consider that the microbe simply crosses the gap by means of the urine, thence into the ureters, the mucous membrane of which is exactly like that of the urethra, and so up into the kidneys. This mode of infection I do not accept as proven, not even by Arpad Gerster's celebrated case.[4] On the other hand, the ascent through the lymphatics in such cases is easily understood owing to the peculiar course of the ureteral lymphatics, their mode of penetrating the renal cortex, and their distribution in the spaces between the uriniferous tubules.[5] Albarran[6] shows that this lymphatic communication could not be interrupted even by ligating the ureter. The other mode of transmission is the circulatory or metastatic, as we have it in almost every organ in the body—in the heart, the brain, the spinal cord, the joints, the muscles, and the tendons; even in the blood stream itself and in the milk of nursing women have living gonococci been demonstrated.[7] By these two paths it is an established fact that an intercurrent gonorrhœal nephritis may be produced, but it appears still more than doubtful that the gonococcus can reach the kidney by simple locomotion. Much less then ought we to expect to see the uterus infected from the vagina (for reasons above stated) by direct surface transmission, nor by the lymphatics, nor by the blood current, as the lymphatics and blood-vessels belong to systems distinct from those of the womb.[8] In the virgin bride it is true that the infection may enter the system through the breach of continuity made in rupturing the hymen, but as the hymen is a part of the vagina, and as a true, special, and independent membrane does not exist (Budin) what is said of the vagina is applicable to the hymen.

In the act of coition the uterus does not remain passive. It has its orgasm, too, being at the physiological moment violently contracted—that is, when in its normal position. An anteverted uterus, for example, is too degenerated in its musculature to be able to get up a respectable contraction, and hence such uteri are as a rule sterile. When this physiological contraction passes off and there supervenes the condition of relaxation a strong suction is made which draws the semen just deposited in the cul-de-sac of Douglas into the cervix, where the columnar ciliated epithelium wafts the zoösperm onwards and inwards. Suppose now that the woman's companion has gonorrhœa, the pus of which must naturally be ejaculated from his penis together with the semen, what is lacking for the development of a cervical clap? Both are sucked in together and the alkaline mucus of the cervical canal favours the gonococcus while destructive to all other microbes introduced from without save the bacillus of tuberculosis. Once introduced into the sacred precincts only time is necessary for the production of those conditions first made known by Noeggerath who by his work made us revise the pathology of the female pelvis.

Not the prostitute alone is victimised in this manner. The bridal bed is in many cases as true an altar of sacrifice as is any funeral pyre provided by the Hindoo. How often has it been necessary for men to postpone their wedding day on one pretext or another in order to get rid of an inconvenient recent clap! How often have the said claps been "cured" by some lazy or ignorant member of our profession (for there are such), or by some druggist, or by a prescription loaned for the occasion by some tried friend. The "running" has stopped apparently and no one has given the prospective groom the two glass test or the beer test and so, guiltily innocent, he gets married. We all know of such cases, but how many are there that we do not know of. The profession is not entirely blameless in this matter. Our teaching should be as clear on the dangers of gonorrhœal infection to an innocent woman as it is in the case of syphilis. Few medical men, if any, fail to warn their syphilitic patients of the dangers that are ahead and of the necessity of a radical cure, but we fear that many do not equally warn their clap clients, when in truth the danger is possibly more serious in these than in those. As far as the wife is concerned, perhaps, a syphilis were a kinder fate and as for the offspring pathology has not yet said nearly its last word. In the case of such a pair it follows, as the night the day, that the poor woman contracts the disease. Her mucous membranes are still soft and tender and the disease has a splendid field for cultivation. If she had had several children she might, perhaps, have escaped paying the full penalty, but being a nullipara she is a sure subject for the hideous catastrophes which follow fast, that is, if she should conceive in the early days of her marriage. On the other hand, if she does not become pregnant very soon she is likely to be sterile, for she is then in a similar case to the prostitute whose chances of conception are relatively very slim. The Spaniards have an adage to explain this: "El camino bien pisado no da grama" ("The well-trodden road does not produce grass"), but I believe the sterility in such cases to be more often due to the cervical inflammation which prevents the impregnation.

It is not the object of this letter, however, already too long, to treat of gonorrhœa in women generally but only in reference to those bearing children. Suffice it to say that her sterility *per se* is the smallest of the woes which befall the infected barren wife. The diseased pregnant woman may have little to indicate her proximate peril until it is upon her. Any troubles she may have during her pregnancy are set down in good faith to her condition by herself, by

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[2] Zur Frage von den Puerperalen Erkrankungen, Archiv für Gynäkologie, Band xxxiii., Heft 1.

[3] See a paper by Bransford Lewis on the Rôle of the Posterior Urethra in Chronic Gonnorrhœa read before the American Association of Genito Urinary Surgeons in 1893.

[4] New Yorker Medicinische Monatschrift, April, 1897.

[5] Robert Newman: Lectures on the Surgical Diseases of the Kidneys, p. 184, 1888.

[6] Annales des Maladies des Organes Génito-urinaires, p. 503, 1899.

[7] I am indebted to a paper by Dr. Lewis on the Pathology of Gonorrhœal Pyelonephritis for many of the facts on this subject. Dr. Lewis, however, is an ardent believer in what I have called "direct surface transmission," which I am not. The paper alluded to appeared in the Journal of Cutaneous and Genito-Urinary Diseases for September, 1900.

[8] The lymphatics of the uterine mucosa are not true vessels; they are formed of an enormous system of vacuoles and lymphatic cavities, communicating with each other; in other words, the mucous membrane of the womb is an enormous lymph gland (Leopold). The vessels which finally receive the contents of this lymph sac go to the lumbar glands, as do also the lymphatics of the kidneys (Gray). The lymphatics of the vagina empty into the inguinal glands. There is a lymph gland, discovered by Lucas-Championnière, at the junction of the cervix uteri and the body, which he considers of great importance in the development of puerperal diseases. So much for the lymphatics. On the side of the blood-supply it is a curious coincidence that the only blood connexion existing between the uterus and the vagina is the vaginal branch of the uterine arteries (from the hypogastric) which therefore may be said to come from the womb to the vagina and not vice versâ. The veins of the two organs have no relations.

her wise good neighbours, and even by her medical adviser. And so she goes patiently on, like the doomed ox, to her fate. In the 24 hours more or less of labour, while finally expelling the child, the uterus in its upheavals has had all its sinuses opened to receive the poison which may have lain dormant during the foregoing months.[9] And now the woman has an attack of "idiopathic puerperal fever." That is all. It may not be the gonococcus itself which produces all the turmoil, indeed, very likely it is not, but the toxins, which are quite capable of finding their way either by the tubes or preferably by the uterine lymphatics to the peritoneum, where they have things all their own way. I have notes of 30 cases of primiparæ, with history of infection, who suffered from this form of puerperal fever. These were all personal cases and the writer can vouch for the aseptic management of the labours. In the after light thrown by more recent studies I can recollect many others not noted as such who undoubtedly belonged to the same category. The patients in these cases often do not die, they only become lifelong invalids. In their after-life these martyrs generally suffer at each menstrual period. There is always some trouble; even a fresh urethritis has been seen to occur month after month at that epoch. These patients rarely become pregnant a second time, but if they do they are liable to abort[10] and a hard time they have, running the same gamut as in their confinement at full time.

In my notes in prostitute cases there are several of *puellæ* with chronic endometritis who followed their vocation without giving disease to their "friends" during the most part of the month, but who invariably infected those men who had the fortune to enjoy their embraces on the nights immediately succeeding menstruation. These are the cases, too, where men are infected by women while menstruating. It is not the menstrual fluid (I am not forgetful of M. Gautier's researches on that liquid) which gives the urethritis, but the stored-up gonorrhœal pus or its equivalent which at that time comes down into the vagina together with the blood. Cases of urethritis contracted from women with leucorrhœa will likewise stand investigation many times. That such cases are of a benign type as a rule simply indicates that the virus has been attenuated *more homœopatico*. It is taught that when an organism has lived a saprophytic existence for some time its virulence is greatly diminished. Still, some of the most virulent cases I have ever had in my practice were said to have been derived from "whites."

I am, Sirs, yours faithfully,

Guatemala City, Central America. J. H. ARTON, M.D.

THE ADMINISTRATION OF CHLOROFORM TO MAN AND TO THE HIGHER ANIMALS.

To the Editors of THE LANCET.

SIRS,—Will you permit me to reply briefly to Dr. J. Blumfeld's criticisms, in THE LANCET of Jan. 9th, p. 142, of some remarks of mine in your issue of Dec. 19th, 1903, p. 1757? I must have very imperfectly expressed my meaning since Dr. Blumfeld attributes to me the view that the patient's safety does not depend on the care and skill of the anæsthetist but upon the particular instrument he uses. This amounts to an almost Gilbertian suggestion that the anæsthetist's responsibility would be limited to turning on the supply tap of his apparatus at the commencement of the operation and turning off the tap at its conclusion, while in the interval he allows his attention to wander. Dr. Blumfeld very rightly, as I venture to think, controverts this view with an admirably reasoned argument in which the suggestion is carried to its logical conclusion—absurdity. Unfortunately, however, I do not hold such a view and did not, as I think, advance it. The middle paragraph of my letter contained evidence of my recognition of the existence and importance of "that uncontrollable factor—the character of the respiration."

My contention was, and is, that the anæsthetist is in a much more scientific position when he supplies to the patient a vaporous mixture the exact quantitative composition of which he not only knows but can vary with precision as the necessity of the case requires and when he can completely control the quantity of such mixture supplied than when he is administering a mixture the quantitative composition of which he can only guess at and can only vary its composition by the same inaccurate means. It seems to me that in either case every whit as much care and skill is required during administration. Since of those two elements of danger in the production of anæsthesia, the character of the respiration and the strength of the vaporous mixture, the former cannot be controlled, while the latter apparently can, then the extent to which this control can be exerted is a measure of the extent to which the danger from this element can be minimised. Such a view does not imply that all danger can be removed from the operation of administering an anæsthetic.

Dr. Blumfeld's remarks on the limitations of the various forms of apparatus mentioned are valuable, particularly so as they are probably the result of his experience. An apparatus which does not allow sufficient variation of dosage would indeed be inefficient. With his concluding remarks on the necessity of experience and teaching in the use of anæsthetics for all who may have to administer them I am in entire agreement.

I am, Sirs, yours faithfully,

Bromley, Kent, Jan. 9th, 1904. W. J. LINDSAY.

GLANDULAR FEVER.

To the Editors of THE LANCET.

SIRS,—In connexion with Professor J. W. Byers's article on Glandular Fever in THE LANCET of Jan. 9th, p. 84, it may be of interest to give a short note on a somewhat similar epidemic which occurred here in September last. Seven cases came under my notice and common symptoms in all were as follows: (1) rise of temperature; (2) slight sore-throat; (3) a unilateral swelling of the glands in the neck situated in front of the sterno-mastoid muscle and just below the angle of the jaw; and (4) a discharge of pus and mucus from the nose. Five of the cases had a purulent discharge from the ear on the same side which commenced at the same time as the swelling of the glands; these were the first five cases that occurred, the last two not having any discharge from the ear. The first two cases were the most severe, an intense cellulitis forming round the swollen glands. This was incised but practically no pus escaped. A swab was taken from the throat of the first case and sent to be examined for diphtheria but proved negative. Films were made of the pus from the ears and wounds and on being examined microscopically I found that the only bacterium present was the pneumococcus. I got Dr. F. W. Eurich, the city bacteriologist, to grow cultures from the pus and he confirmed my result as to the condition being a pure pneumococcal infection and remarked that he was struck with the fact that the swab previously sent to him had also given an almost pure culture of the pneumococcus. As several other cases of pneumococcal infection, such as abscesses in the vicinity of the knee-joint, a case of mastoiditis, &c., have since come under my notice here, it would be of interest to know if the abnormal atmospheric conditions of the last few months have had any effect in causing this coccus to take a special action like the above.

I am, Sirs, yours faithfully,

J. KENNEDY MATHESON,
House Surgeon, Children's Hospital, Bradford.

Bradford, Jan. 11th, 1904.

RADIUM IN THE BATH WATERS.

To the Editors of THE LANCET.

SIRS,—So much public attention has lately been drawn to the presence of radium in our thermal waters that I should like with your kind permission to say a few words as to the bearing that this substance may have upon the hydrotherapeutics of Bath. Into the general facts as to the way

[9] Menge and Krönig say: "Gonorrhœal puerperal fever is to be regarded as due to an infectious process, already existing in the body, not as an example of autogenesis."

[10] The tendency to abort observed in the gonorrhœal woman comes from a "placentitis decidualis" (Vial). It is worthy of note that it is suspected, if not quite proven, that many cases of puerperal convulsions are the result of a nephritis produced by the uterine gonorrhœal infection, conveyed probably by the circulation. It will be remembered that the terminal branches of the left utero-ovarian vein empty into the left renal vein. To connect our former empirical ideas of the pathological condition underlying these cases (pressure on the renal veins) we have only to go a step further and, given a stasis from pressure, it is easy to understand how the gonococci from the womb reaching this point and being detained and finding a suitable culture medium (human blood being the best) should spread and in colonies invade the kidneys. This may be considered fanciful but I leave it so.

in which the discovery came about it is not necessary to enter, they have been sufficiently described in the lay press. There is one point, however, which calls for attention. The presence of radium was demonstrated in the sediment which deposits in the tanks and baths, and not as is imagined by some in the sands which are washed up with the water as it rises to the surface. Whether it is in these as well is not yet known, the interesting fact remains that radium is in the waters themselves. The sediment which was examined is the same that may be seen collecting in the corners of an empty bath, especially at the Mineral Water Hospital, and it also gives the drinking glasses their characteristic rusty stain. It follows then that radium in homœopathic doses is taken into the system when the water, which is pumped straight from the spring to the glass, is drunk. It is hardly necessary to point out that the presence of radium in the water does not alter and does not extend the list of those forms of illness which are benefited here. The medical profession will fully recognise this fact and it is to be trusted that the laity will not be encouraged to entertain hopes on this subject which are doomed to disappointment.

The question is, however, of interest as to whether or not in radium we have solved the hitherto unknown quantity which determines the therapeutic action of our waters. There are some members of the medical profession who do not believe that there is any special therapeutic action in waters which, like those of Bath, contain very little mineral matter and who think that, except perhaps for the influence on the mind, any water would do as well. Such, indeed, was my own opinion when I first went to the Mineral Water Hospital. In the past 14 years, however, I have seen many cases in which after fair trial elsewhere benefit has at last resulted here. If we have not known, and do not know, to what the benefit is due, still using the waters empirically, we have only been doing with them as we do with nearly all the medicines we prescribe, and experience has justified our action. So little is known of radium, and nothing of its action when taken internally, that we are at least justified in thinking that its presence may explain what we have so far been unable to understand.

In the current number of THE LANCET the question is asked as to whether radium is the cause of the heat in our thermal waters. I think with the direct evidence of volcanic action before us as supplied by the presence of lava in the sands it is not necessary to seek further for an explanation of the heat.

I am, Sirs, yours faithfully,

Jan. 11th, 1904. PRESTON KING.

*** Dr. Preston King must have misread the annotation in our issue last week on this subject. The question there asked was "Can the healing properties of the waters have anything to do with radio-activity?" There was no suggestion made of radium offering an explanation of the *heat* of the waters.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Pasteur Institute at Kasauli.—The Bombay Government on Hospital Fees.—The Plague Epidemic.—The French Government and the Destruction of Rats.

AN excellent record is presented of the third year's work of the Pasteur Institute at Kasauli. Inoculation for rabies is becoming better recognised by the natives of India and although the great distance of some parts from Kasauli acts as a deterrent to many the facilities for remaining under treatment have been well arranged for and are highly appreciated. Out of 584 patients treated there were only six failures and these occurred entirely in the case of persons bitten by animals suspected of rabies but not proved to have had the disease. Among 104 patients bitten by animals proved to be rabid and among 70 patients bitten by animals certified as rabid there was not a single case of failure. The animals by which the bites were inflicted were 500 dogs, 59 jackals, three cats, one mule, and one fox. Antirabic serum has been prepared with a view to improve the treatment in badly bitten and late cases by diminishing the time required to produce immunity. The animals used for this preparation are young healthy ponies which have been prepared with large doses of "fixed virus." Another stroke of good work has consisted in the preparation of antivenene on a large scale. Over 1000 bottles have already been distributed and Lieutenant-Colonel D. Semple, R.A.M.C., expects to be able to supply the demands from the whole of India. Typhoid fever "vaccine" and anthrax "vaccine" were also produced and diphtheria and tetanus antitoxins are in course of preparation. I am very pleased to hear that the financial position of the institute is sound and that it is becoming an establishment for the advancement of bacteriological science as well as a teaching centre.

A recent resolution of the Bombay Government upon the question of fees at hospitals supported by the State from persons who are not to be classed as poor determines that no change shall be made at present. It is considered that if the people were deprived of European medical advice by charging more than nominal fees they would resort to ignorant quacks and native botanists. Persons are considered as poor who are in receipt of less than 20 rupees (£1 6*s.* 8*d.*) per mensem. Others slightly better off have to pay small sums for food or for special accommodation or attention. A further class of persons is made to include those who have to pay for advice and treatment at the dispensaries. The Government is considerate to practitioners and lays it down that where there is a qualified private practitioner the collector of the district may fix such rates as shall encourage private practice and discourage the use of State-aided dispensaries by persons able to pay.

The plague mortality throughout India fluctuates between 16,000 and 18,000 but for this week 17,295 deaths are recorded. For the corresponding week last year 14,200 died from plague. There is a slight increase in the Bombay Presidency and in the United Provinces. The prospects are very disheartening because the returns show how widely the disease has spread and how severe it is in places. In the Bombay districts the number of deaths as compared with the seizures is appallingly high but this may be because the deaths only are recorded and very few living cases come to notice. In the crowded populations of the Central Provinces and Berar the deaths are about ten times as numerous as in the corresponding period last year. Central India has come on the register this year and reports about 1000 deaths weekly. Bengal is once more showing a recrudescence—the Patna district especially suffering. The seaports of Bombay, Calcutta, Karachi, and Rangoon return but few cases. In Kashmir (Srinagar) the plague is developing very rapidly and severely, the type being pneumonic. All the cases are fatal. The outbreak is said to have spread from a common origin. Out of the 20 medical officers engaged two years ago for inoculation work in the Punjab for an impossible scheme only about five remain. In one or two districts last year some thousands of people were inoculated but in all the others practically nothing was done. At present there is nothing doing but the recrudescence has not yet started in the Punjab.

By a decree of the French Government recently circulated in India the destruction of rats on all vessels arriving from an infected port is compulsory. If done in port some recognised method must be adopted or it will be done by the port authorities if desired. Considering how infested with rats nearly every vessel is and the farcical regulation of some companies for keeping a few cats on board to absolve them from liability against action for the destruction of cargo this decree promises to accomplish benefits other than against plague.

Dec. 25th, 1903.

METROPOLITAN HOSPITAL SUNDAY FUND.—At a meeting of the Council of the Metropolitan Hospital Sunday Fund, held at the Mansion House on Jan. 7th under the presidency of the Lord Mayor, the Rev. Prebendary Ridgeway, Mr. R. de Q. Quincey, and the Rev. A. Fleming were appointed members of the general purposes committee to fill vacancies. The committee of distribution is now constituted as follows: the Lord Mayor, Sir Sydney Waterlow, Lord Stamford, Sir Savile Crossley, M.P., Sir William Church, K.C.B., P.R.C.P. Lond., Captain J. Cundy, Mr. Robert Grey, Mr. Herman Hoskier, Mr. F. H. Norman, and Mr. Alfred Willett.

TRIPLE COMPULSORY VACCINATION IN FRANCE.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

No. I.—EFFECT OF THE NEW LAW ON FOREIGNERS.

A GREAT change is being gradually wrought in French institutions. The need of practical legislation in matters of public hygiene has long been keenly felt. The existing laws were of a vague character and left matters too much to the discretion of elected bodies. The latter, on their side, while often recognising the necessity of action, were too much at the mercy of their electors to venture on any drastic measures. But now at last a law has been enacted which constitutes a Public Health Act and this orders and compels the local authorities to put into practice measures which for the most part were but subjects of discussion. As often happens when a legislature is behind the age it is not content with a gradual advance but takes a sudden leap and finds itself first where it used to be among the last. This is the case in that portion of the new French Public Health Act which deals with vaccination. At the International Congresses of Hygiene the French representatives used to speak enviously of Great Britain, Germany, and other countries where vaccination is compulsory. Then they apologetically explained that though vaccination was not *de facto* obligatory every effort was made to render it indispensable in practice. Thus education was obligatory but no child was admitted into a school who had not been vaccinated. Military service was obligatory but no soldier was allowed to join his regiment who had not been vaccinated. In all State employments and in the employment of railway companies, &c., no one was accepted who had not been vaccinated. Nevertheless, the French delegates at the Congress felt sorely the inferiority of the position. All this was mere manœuvring, not to circumvent the law, but to make it appear as if a law existed when in reality there was no law. All this is changed now. Not only is there a law but it is a triple-barrelled law, for it compels every French subject and every foreigner living in France to be vaccinated not merely once but three times. Here is the actual text of the law of Feb. 15th, 1902, on the protection of public health as modified by the law of April 7th, 1903, which is to come into force one year after its promulgation:—

> Article 6.—Anti-small-pox vaccination is obligatory during the first year of life, as also revaccination during the course of the eleventh and the twenty-first year.
>
> The parents and tutors are personally held responsible for the execution of this measure.
>
> Regulations will be issued by the public authorities in keeping with the advice given by the Academy of Medicine and the Consultative Committee of Public Hygiene of France fixing the measures necessary for the application of the present article.

Thus it is now no longer permissible or legal for a person residing in France to endanger the health of his neighbours by refusing to take the precautions that will most probably prevent his becoming a centre whence small-pox may be spread to others. At Nice, some two years ago, I remember describing the perplexities of the authorities in regard to an English antivaccinationist. When the epidemic of small-pox broke out in this town during the season of 1901 and 1902 the victims were principally unvaccinated Italian labourers. The garrison, consisting of 3800 soldiers, was at once revaccinated, and though the soldiers when on leave generally frequented the part of the town where small-pox was most prevalent not a single case occurred among these troops. But adding to the soldiers the men and women employed at the State tobacco factory and the railway and tramway lines there were altogether some 10,000 persons who could be compelled to be, and consequently were, revaccinated. Out of these 10,000 persons 14 contracted small-pox before they were revaccinated and two others managed to avoid being revaccinated and they also had small-pox. None of the others suffered from the disease and thus 10,000 persons lived in the midst of a small-pox epidemic and after revaccination there was not a single case of small-pox among them. It was in the face of these facts that an English lady, calling herself a Christian Scientist, went about among the American and British residents at Nice persuading them not to be revaccinated. The authorities were perplexed. On the one hand they were anxious to show the greatest courtesy and consideration to all foreigners who went to winter at Nice, but the epidemic was frightening their winter guests away and here was a lady doing her best to increase the prevalence of the disease. Suggestions were made to expel her from the territory, at least of Nice, if not of France. But then no law had been broken or defied since vaccination was not obligatory; it would therefore seem a very arbitrary act to compel the Christian Scientist to leave the town. However, the difficulty was solved in a very effective though untoward manner. This lady had, in any case, the merit of consistency, for she would not allow herself to be revaccinated. Thus unprotected she contracted small-pox and died in a few days and the authorities were relieved in this suggestively dramatic manner of the embarrassment that her presence and action had created.

Now, with the new law no such difficulty would be possible. To persuade a person not to be vaccinated is to persuade him to break the law and therefore action can be taken. But apart from this general principle the regulations to which allusion is made in the third clause of Article 6 quoted above have now been issued and they contain a special article relating to foreigners. Not only do the regulations apply to all persons without any distinction being made with regard to the nationality of such persons but Article 10 expressly states:—

> The foreigner who shall have established his residence in France is subjected, for himself and for his children, to the prescriptions of the present regulations in the place where he resides.

This enactment will be found in the decree of July 27th, 1903—published in the *Journal Officiel* of July 31st, 1903—"dealing with the public administrative regulation of vaccination and revaccination in virtue of Article 6 of the law of Feb. 15th, 1902." This decree is signed by the President of the Republic, M. Emile Loubet; by the President of the Council and the Minister of the Interior and of Public Worship, M. E. Combes; and by the Minister of Justice, M. Vallé. Then there is also a ministerial circular to the prefects, dated August 7th, 1903, dealing with compulsory vaccination and revaccination according to Article 6 of the law of Feb. 15th, 1902. This circular has for its object to explain the various articles of the regulations and under the heading "Application to Foreigners, Article 10," there occurs the following passage:—

> All the prescriptions which precede are applicable, in virtue of Article 10, to foreigners, for themselves and for their children. The importance of this assimilation from the prophylactic point of view could not, Monsieur le Préfet, escape your notice. If the foreigners who come and install themselves on our territory are enabled to benefit by the guarantees which the application of the new law will give to the French populations it is just that they should not be able to escape from the obligations which the law imposes so as to obtain these advantageous results and this, too, in such a manner as would expose the populations among whom these foreigners propose to live to dangers of contamination that are henceforth inexcusable.

In other words, foreigners will not in future be allowed to endanger the French people by living in their midst if they have not been properly vaccinated. Doubtless it will be somewhat difficult to apply such a regulation to mere tourists but the law will be enforced in exactly the same manner on the foreigner residing in France as on French subjects themselves. All this will take time to organise and to carry out but now the necessary regulations and instructions have been issued and the first steps in this direction have been taken.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University Lectures.

ON Jan. 5th Sir Oliver Lodge, D.Sc., LL.D., F.R.S., Principal of the University, delivered two lectures in the town hall on the subject of radium. At the first of these lectures, which was delivered in the afternoon, the Chancellor, the Right Hon. Joseph Chamberlain, presided and most of the members of the staff were present in academicals. The hall was crowded with an audience consisting of governors, donors, and other citizens. Admission was

by tickets which were, for the most part, distributed gratuitously, but a certain number for reserved seats were sold in order to defray the necessary expenses of the occasion. There was a great demand for these tickets and it is rumoured that much higher prices than those charged by the University were offered to those who, by early application, had come into possession of them. The lecture was illustrated by experiments and by lantern slides. In the evening Sir Oliver Lodge repeated the lecture for the benefit of working men who were admitted free. On this occasion the chair was taken by the Lord Mayor who at the conclusion of the lecture very heartily thanked Sir Oliver Lodge for his address. A circular has been sent out to members of the medical profession in the district stating that at the request of the Dean of the Faculty of Medicine Sir Oliver Lodge has consented to deliver a course of four lectures on those parts of physics which are of especial interest at present in connexion with medicine. The lectures will be delivered on the four successive Thursdays in February in the medical theatre of the University and will deal with the following subjects:—(1) Production and Properties of Cathode Rays; (2) Production and Properties of Roentgen Rays; (3) Production and Properties of Ultra-violet Light; and (4) Production and Properties of High-frequency Alternating Currents. Admission will be by tickets which are obtainable gratis on application to the Dean of the Medical Faculty.

Notification of Small-pox: a Curious Case.

The following correspondence opens up a matter of considerable importance in connexion with the question as to whether the health officials, when aware that a domestic servant has been in contact with a case of small-pox, are bound to inform the employers of the servant or should, as they did on this occasion, allow them to remain in ignorance. The gentleman in question in this case would certainly seem to have had just grounds for complaint in that he was not apprised of the state of affairs, that his maid was not obliged to submit herself to vaccination, and that he has been subjected to great anxiety, annoyance, and expense on account of the failure of the health officials to give him that information which it certainly seems that it was their duty to afford him. The case is fully explained in the following letter addressed to the health committee:—

One of my maids spent the evening of Sunday, Nov. 22nd, at her brother's house. On the Monday or Tuesday following one of the inmates of that house was removed to the small-pox hospital. My maid was traced and noted by your officials as a "contact" and was visited at my house by one of them. She was taken ill on Friday last (Dec 4th), was seen by my own medical man, who at once called in Dr. McCrindle, and her case was diagnosed as one of small-pox and on the same evening she was removed to the hospital. I knew nothing of the case nor of what had transpired until I returned home on Friday evening but, fortunately, my wife was in the house and her promptness has, I trust, prevented any serious consequences. The fact, however, remains that no communication, official or otherwise, was made to me or to my wife of the case, nor were any steps taken by your people to get the girl vaccinated or to have her clothing disinfected. This omission has unnecessarily involved five other people in the danger of infection, has made my house suspect, and has thrown upon my wife and myself a burden of anxiety which it is impossible to exaggerate. I am unable to discover any possible excuse for such treatment and I shall require that the matter be thoroughly investigated.

The following is the reply of the chairman of the health committee and it certainly seems scarcely calculated to give confidence to householders that their interests are being considered by the health committee as they might be considered:—

The health committee at their meeting yesterday had under consideration your letters of the 7th and 9th inst. They have very carefully inquired into the whole circumstances which have occurred in connexion with the case of small-pox in your house. They regret that you should have been put to so much inconvenience in the matter, but they do not think that you are right in inferring that you would have been spared all trouble by having been informed at an earlier date of your servant's contact with the disease. If she had been sent away from your house at the time that the medical officer of health became aware of her contact and had subsequently developed small-pox, it would still have been necessary to have advised vaccination and disinfection. From the information available at the time the medical officer of health took the precaution of keeping —— under observation as an extra precaution, and the committee feel that it is a matter of satisfaction that no further case has occurred.

It will be observed that the letter makes no attempt to explain why the employers were left uninformed as to the risk which their servant had run, still less does it state why the health officials neglected to insist upon her being at once revaccinated. In the event of their having suggested revaccination and having met with a refusal it would have been doubly their duty to inform the employers as to the state of affairs.

Sister Dora Convalescent Home.

The convalescent home founded in memory of the lady best known in Walsall and elsewhere as Sister Dora seems to be in financial difficulties. It is situated at Milford, near Stafford, and a meeting has recently been held there to consider the report of a county committee which was appointed some time ago to consider whether the advantages of the home could not be retained for Staffordshire, a proposal having been made that the services of the institution should be placed at the disposal of patients from Leicestershire and that it should be managed by a committee representing that county. The committee reported that in the past the home had mainly relied for its support on the hospitals of the county but that with two exceptions the response made to recent appeals had been disappointing. Some of the leading hospitals had, however, not been able to give a definite answer on account of the short time which was allowed to them for arriving at a decision. It was thought that some further assistance might be expected from these sources. The Wolverhampton Hospital committee had passed a resolution that in the event of Lord Dartmouth who is Lord Lieutenant of Staffordshire and was chairman of the committee in question, being able to give an assurance of support from the county of Stafford of a subscription list of £250 per annum at least it would be able to take over the home under certain conditions. The Staffordshire General Infirmary committee under certain conditions would guarantee £100 a year. In addition the committee had promises of about £150 but some of these were "ear marked" and must not be counted twice over. It had promises of further contributions which would amount to about £50. With these facts before it the county committee passed a resolution that if more time were allowed there would be no difficulty in raising the necessary income as no effort had yet been made to canvass the county systematically. The report having been considered it was proposed that a further period of six weeks should be allowed to the county committee but that if at the expiration of that time it should appear that the amount required by the Wolverhampton Hospital committee was not forthcoming the committee should lease the home to the Leicestershire authorities. The Bishop of Shrewsbury moved an amendment that the condition and affairs of the home should be referred to the Charity Commissioners for their consideration. This was seconded by Sir Thomas Salt but met with no other support and eventually the motion as above was carried by 12 votes to two.

Jan. 12th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

A Portable Bath Fatality.

ONE can scarcely take up a periodical without seeing advertisements of various portable hot-air or vapour baths. Presumably, therefore, the sales must be numerous enough to pay more than the cost of advertising, and yet it is seldom that any accident from their use becomes publicly known. It is, however, clear that they ought to be used carefully and with common sense. This is shown by the evidence given at an inquest held on Jan. 6th in Manchester. A young woman 21 years of age went upstairs to have a vapour bath in what the father described as "a folding bath, about three feet square, with a sloping top and a hole for the head." In a few minutes she called out "Oh, mother, I am burning," and rushed out of the bath room. She was terribly burnt, was attended to by a neighbouring medical man, and then taken to the infirmary where she died in a few days. While there the girl told her mother that she was having a hot-air bath and not a vapour bath and as the lamp was burning low she put the extinguisher on and began to pour in some methylated spirit when it exploded. The father said that the sides of the lamp would be nearly red hot and she did not wait till it had cooled. Nothing remained of the bath but the bare wire framework. The bath room was a "charred mass" and the windows were blown out. The coroner, Mr. E. A. Gibson, made some

strong remarks on these baths which, he said, it was "highly reprehensible to put on the market" when it was obvious that they were nothing but death-traps. "He had known in his own experience other cases where people had been burnt under similar circumstances, though not fatally. He could not speak strongly enough against it." These baths are evidently dangerous things and if used at all should be used with great caution.

How We are Undermined.

Reverting to the thoughts suggested by the Hanley tragedy, disused mining shafts are not the only dangers that beset our paths. In Blackburn the other day a girl was almost engulfed but rescued just in time to save her from that fate. She was, however, so seriously scalded that she soon afterwards died. The hole where the ground gave way was soon enlarged considerably by the falling in of the road. It is thought that the occurrence was caused by a leakage from a collapsed brick culvert into which a factory discharges waste hot water. It is not often, perhaps, that education suffers from school-houses sinking, but at Northwich, well known as a centre for subsidences, a school has just been closed from this cause. It may be in the recollection of some that a few years ago at Northwich a man was in a stable attending to a horse when the floor suddenly gave way and though the man was just able to escape the horse was swallowed up and seen no more. Such facts as these should make the authorities more alive to the dangers associated with the underground operations necessary for our comfort and convenience and more careful in seeing that all possible means are used to guard against these dangers which are very likely to become more common as time brings change and decay.

Notification of Pulmonary Tuberculosis.

The Medical Guild of Manchester has protested against the proposal of the city council to seek Parliamentary powers for the compulsory notification of pulmonary tuberculosis. It states that medical men realise that public opinion is not ripe for such a "drastic proceeding" and considers that "the present system of voluntary notification, which gives the medical attendant discretionary powers in his private practice," is sufficient. It suggests that it would be well to await the results of the experiment of compulsory notification now being tried at Sheffield. The Lord Mayor passed on the letter of protest to the Parliamentary subcommittee who passed it over to the sanitary committee, by whom it has been "entered on their minutes."

"What is White Pepper?"

A grocer was summoned before the Manchester county magistrates on Jan. 5th for selling pepper "not of the nature, substance, and quality demanded by the purchaser." It had been found on analysis to contain nearer 20 than 15 per cent. of bleached pepper husks. Pure white pepper consists of the kernel of the berry. The analysis was made by Mr. Collingwood Williams, one of the county analysts, in conjunction with Dr. Campbell Brown. The magistrates were presumably not satisfied with this analysis, for, after the adjournment, the stipendiary intimated that the bench had decided to try the case on the analysis submitted by the Government chemists, which showed that the proportion of husks, more or less bleached, was about 4 or 5 per cent. The case was adjourned that the prosecution might communicate with the Government chemists and if necessary call their experts. It would be interesting if experts could explain the great discrepancies often occurring between the Somerset House analyses of milk and other articles of food and those of the provinces. It would seem that sending samples to London in some way tended to their purification.

Jan. 12th.

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

Poor-law Administration in Pontypool.

AT the last meeting of the Pontypool board of guardians Mr. F. T. Bircham, a Poor-law inspector of the Local Government Board, stated that in the last ten years the population of the union, which is now approaching 50,000, had increased 14 per cent. and the rateable value had increased 28 per cent. but the amount of pauperism had decreased 15 per cent. The expenditure, however, had increased nearly 20 per cent., accounted for principally by the improved accommodation provided for the sick poor. The Pontypool workhouse is a well-equipped institution, among other recent improvements having been the installation of electric light. Mr. Bircham spoke in complimentary terms of the administration of this institution. At the previous meeting of the board it was reported that at meal times only one mug was provided for six or seven persons in order to save the labour of washing up, but the master was very properly instructed to provide each inmate in the future with a separate mug.

By-laws under the Employment of Children Act.

In order to ascertain which employments exert the most pernicious influence upon children the medical officer of health for the Rhondda (Dr. J. D. Jenkins) has suggested to the district council that before framing by-laws under the Employment of Children Act it should obtain from the head teachers of elementary schools and from the school attendance officers a return giving particulars of all children employed for wages.

Bristol Workhouse Infirmary.

The proposals of the Bristol board of guardians in connexion with the provision of infirmary accommodation for the sick poor have already been referred to in THE LANCET.[1] There are at present two workhouses in the city, each having accommodation for between 1100 and 1200 inmates, one at Stapleton and the other at Eastville. At the latter institution there are several buildings constructed of wood and of wood and iron which have been condemned as entirely unsuitable for the purpose to which they are put. In 1901 it was decided to erect near the Stapleton workhouse a new infirmary and buildings for the imbeciles and for children and to abandon the Eastville workhouse. A competition among architects resulted in the selection of plans which received the approval of the Local Government Board and in September, 1902, a committee of the board of guardians recommended the acceptance of tenders for the erection of the buildings named at a cost of £130,000. This recommendation, however, only received the support of 25 members of the board and was not adopted. The next definite proposal of the board provided for the retention of the Eastville workhouse for the able-bodied and for the aged inmates who were in good health and for the treatment of the sick and infirm at Stapleton where a new building for 250 patients was to be erected, together with an entirely separate block for 500 imbeciles, this latter to be under independent management. This scheme was not approved by the Local Government Board which pointed out the difficulties connected with the adaptation of old buildings to modern requirements. A committee of the board of guardians was then formed to devise a scheme which would be acceptable to the Local Government Board as well as to those guardians who opposed the adoption of the infirmary scheme. This committee reported to a special meeting of the guardians held on Jan. 8th and its recommendations were adopted by 34 members of the board, 18 voting against them. This latest proposal provides for the retention of the Eastville workhouse (with the removal of the wooden structures and three of the five wood and iron pavilions) where would be housed the aged and infirm, the able-bodied, casuals, and married couples; for the adaptation of the block at present used for imbeciles as an infirmary for the chronic sick; for the erection of four new pavilions for the acutely sick, and of a block for lying-in cases, together with new receiving wards. The cost of these extensions is estimated at £50,565 and there would be a total accommodation for 1354 inmates. At the Stapleton workhouse it is proposed to make alterations at a cost of £6360 which would make the existing accommodation sufficient for 1398 inmates who would include the acute sick, the aged and infirm, able bodied women with babies, casuals, and married couples. For the imbeciles and epileptics it is proposed to establish a separate institution to accommodate 724 inmates at a cost of £100,000. The total expenditure would thus be nearly £157,000 and there would be accommodation in the three institutions for 3476 inmates. The opponents of this scheme, which has yet to receive the sanction of the Local Government Board, point out that the expenditure of a large sum of money upon altering existing

[1] THE LANCET, Oct. 4th, 1902, p. 962, and May 30th, 1903, p. 1549.

buildings can never be satisfactory and that there would still be two workhouses with a duplication of administrative expenses.

Low Death-rates in the West of England.

The death rates in the city of Bristol during 1903 compare very favourably with those recorded in previous years. In 1893 the death-rate from all causes was 18·8 per 1000 and since then there has been a steady fall until last year when 14·2 per 1000 was recorded. The death-rate from the principal zymotic diseases was 1·1 per 1000 in 1903, compared with an average rate during the previous ten years of 1·9 per 1000. Still more satisfactory is the low rate of infantile mortality. In 1899 this was equal to 157 per 1000 births and in no recent year has there been a lower rate than 130 per 1000 births, but in 1903 the number of deaths under one year was equal to 116 per 1000 births. At the meeting of the Wellington (Somerset) urban district council, held on Jan. 7th, it was reported that 91 deaths occurred in Wellington during 1903, corresponding to a rate of 12·45 per 1000, the lowest since the records had been kept. At the meeting of the Bath sanitary committee, held on Jan. 6th, it was stated that 751 deaths occurred at Bath during 1903, being the lowest number of deaths registered since records have been kept; in 1902 the deaths numbered 911. At the meeting of the Chard town council, held on Jan. 7th, it was reported by the medical officer of health that the death-rate for 1903 was 13 per 1000, being the lowest rate for the past 12 years. Only two deaths occurred from the zymotic diseases—namely, one from diphtheria and one from whooping-cough.

Jan. 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Infirmary: Annual Report.

THE annual general meeting of the court of contributors to the Edinburgh Royal Infirmary was held in the City Chambers on Jan. 4th, the Lord Provost being in the chair. The attendance was much larger than it has been for years. The annual report of the managers, which was submitted by the treasurer and clerk, showed that the total number of patients under treatment during the year ending Oct. 1st, 1903, was 10,484; of these, 4921 were discharged cured, 3480 were relieved, 603 were discharged on other grounds, and 758 died, leaving 722 patients in the infirmary at the end of the year. Of those cases 3831 were medical and 5931 were surgical. The total number treated showed an increase of 523 over the total treated in the previous year. The average daily number of children treated was 63, against 62 in the previous year; the average daily number of patients was 743, against 725; the largest number of these on any one date was 773, against 770. The average time each patient was under treatment was 25·8 days, against 26·6. Of the cases admitted Edinburgh furnished 5053, Leith 539, and the country 4209. In the out-patient department 31,801 patients had been treated. The ordinary income amounted to £32,685 11*s.* 1*d.*, as against £32,621 6*s.* 4*d.* in the preceding year. The voluntary contributions showed a net decrease over all of £139 14*s.* 8*d.* The revenue from hospital tickets and income-tax recovered had amounted respectively to £244 12*s.* and £62 11*s* 8*d.* more than in 1902. The ordinary expenditure amounted to £47,600 18*s.* 1*d.*, or £407 7*s* above that of the previous year, an increase which was more than accounted for by the increase in the average number of occupied beds. The expenditure for the year, including out patient department, per occupied bed was £64 1*s.* 3½*d.*, or a decrease of £1 0*s.* 7*d.* on the previous year. There had been a reduction of 7*s.* 0½*d.* in maintenance and of 10*s.* 9½*d.* in medical expenditure for each occupied bed. The legacies and donations of £100 and upwards amounted to £47,002 16*s.* 3*d.* The average number of nurses and probationers during the year was 210; there were 642 applications for admission during the year, as against 627 in the previous year. The managers had introduced several changes in the nursing department during the past year, the principal being as follows: 1. The abolition of the practice of taking nurses for a two years' course of training. All nurses must now go through a three years' curriculum. 2. The dividing up of the one year's night duty into two periods of six months with an interval of at least six months' day duty. 3. A system of preliminary examination for candidates. Various new works had been completed during the past year. The bathing department was opened in February and had supplied a want long felt. In three surgical pavilions plumbing and drainage reconstruction had been commenced. Fire escape staircases had been completed in all the medical blocks and the escapes on the surgical side had been so perfected as to reduce danger from fires to a minimum. Arrangements had been made with the fire brigade to have a fireman constantly in attendance in the infirmary. The ophthalmological and ear and throat pavilions had been completed and furnished and were now occupied. A very much improved skin department and a medical electrical department were being arranged for. At the convalescent house, Corstorphine, 1290 patients had been admitted during the year; of these, 985 remained the full period of three weeks, during which they gained on an average 4·46 pounds in weight. A new rule had been introduced with regard to the medical staff to the effect that ordinary physicians and surgeons should retire at the age of 65 years. The rule, however, was not to apply to those members of the staff who were at present serving their second or third term of five years in charge of wards or to the professors. Further, the charge of the women students' wards was henceforth to be regarded as a full charge and was to count towards the full term of office. The report was unanimously adopted. A motion was then made by Mr. J. F. M'Lennan, advocate, that the age limit should be applied to the professors as well as to the extramural physicians and surgeons. Sir Charles Pearson moved as an amendment that the question be remitted to the managers. On a vote being taken the motion was carried by 46 votes as against 23 for the amendment.

Theories of the Determination of Sex.

At a meeting of the Aberdeen University Medical Society held on Jan. 8th Mr. J. Arthur Thomson, the professor of zoology, gave an address on the Determination of Sex. He said that there were three theories which of the many that had been put forward had, in his opinion, stood the most severe modern tests. The first of these was that *ab initio* there were male and female ova and male and female spermatozoa, the coalition of corresponding elements resulting in a male or a female. This dimorphism was noticeable in rotifers, in some crustaceans, and, according to Dr. Beard of Edinburgh, in the common skate. The second theory was that the production of male or female offspring depended on the relative freshness or staleness of the male and female elements at the time of fertilisation, the offspring following the sex of the relatively more vigorous progenitor. This theory was supported by the observations of many breeders of domestic animals. The third theory was that environment, e.g., nutrition, gave to an originally indifferent embryo the bias to the side of masculinity or femininity, starvation generally producing males and good feeding producing females. This theory was not opposed to the other two, unless in the first theory it was supposed that the sex was wholly dependent on dimorphism or in the second theory on the relative freshness or staleness of the two elements. It was rather complementary to the two previous theories. The same hydra could be made at one time by good feeding to produce only ovaries and at another time by starvation to produce only testes. Vaucheria, normally hermaphrodite, could be made male or female by starvation or good feeding respectively with the greatest ease. The same was true of the prothallus of a fern. Similar experiments had been made on caterpillars, but must now be regarded as irrelevant, for there was definite evidence that the sex was predetermined, quite apart from external conditions. In ordinary circumstances the frog's spawn produced 57 per cent. of females and 43 per cent. of males. The percentage of females could be raised to 68, 81, and 92 by feeding the animals with meat, fish, and frog respectively. Unfortunately these results were vitiated, as was also the case in caterpillar experiments, by the mortality not being recorded. The view that there was an essential masculinity about the spermatozoon or an essential femininity about the ovum was untenable. Each element contained characteristics of the other element in addition to its own. The drone bee came from an unfertilised egg. Parthenogenesis was also seen in the plant lice, which could produce offspring in a hothouse for four years without the intervention of a male. The first brood of the wild humble bee consisted of females

born in the spring, but in autumn, or when the temperature was lower, males made their appearance. Out of the five eggs of a sparrow-hawk three became males and two females, male and female alternating; one could not, he thought, physiologically conceive an ovary being able to liberate alternately an ovum which should become a male and one which should become a female. The rotifer hydatina had two sorts of eggs, large and small. The large eggs produced only females, the small eggs only males, and no amount of change in environment could produce a male from a large egg or a female from a small egg. Among animals higher in the scale of development mice were very suitable to experiment with as they were ready for reproduction when seven weeks old and, if they were not allowed to suckle their young, could produce a litter every three weeks. Professor Thomson thought that there was at least a strong probability that every ovum of an organism with separate sexes had from the first a predisposition towards becoming a male or towards becoming a female, but that this predisposition might be altered by the nutrition of the ovum, by changes in the period before fertilisation, by fertilisation itself, and by environmental influences (of nutrition, temperature, &c.) during embryonic or even larval life, until the period was reached when the sex of the off-spring was fixed. The probability was that many factors determined the result and that insistence upon any one was almost certain to be fallacious.

Jan. 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

University Education in Ireland.

THE question of university education for Ireland would seem to be about to enter again into the sphere of practical politics. It will be remembered that the commission appointed by Lord Cadogan reported against the Royal University as a possible solution of the problem, while Trinity College was expressly excluded from its consideration. Since then the board of the University of Dublin has offered to establish a Presbyterian chapel without the precincts of Trinity College and a Roman Catholic chapel as well if required. A very important letter has recently appeared from Lord Dunraven dealing with the whole matter. Lord Dunraven's proposal is not new but it carries weight on account of the favourable way in which it has been received. His suggestion is that the University of Dublin should be enlarged in order to include not only Trinity College but a fully endowed and equipped college in Belfast to meet the requirements of the Presbyterian students who form the majority there and a third similarly endowed college in Dublin to satisfy the feelings of the Roman Catholics who chiefly centre there. He suggests that the latter might be called "King's College" and that it would be open to Protestant students just as Trinity College is open to Roman Catholics now.

The Fate of Dr. J. R. Welland, Lieutenant R.A.M.C.

Dr. J. R. Welland, Lieutenant R.A.M.C., whose death is reported as having occurred in the recent fighting in Somaliland, was educated at Rossall School and Trinity College, Dublin. He was a thoroughly good man at his work and also a fine oar, stroking the Trinity College crew at Henley four years ago. His death, for there seems no doubt that the worst has happened, will be much felt.

Royal Victoria Hospital, Belfast.

At a meeting of the board of management of the Royal Victoria Hospital, Belfast, held on Jan. 7th, it was announced that the Misses Riddel, of Beechmount, Belfast, had contributed £10,000 to the funds of the hospital as a memorial of the late Mr. Samuel Riddel, a member of one of the oldest and most respected Belfast families. £2000 are earmarked for a residence for the medical superintendent. One of the unnamed wards is to be called the "Riddel" ward. 100 guineas were also handed in as a first instalment of the proceeds of an amateur concert organised by the employés of one of the mills of the York-street Flax Spinning Company of Belfast.

The Poor Consumptive in the North of Ireland.

Mr. R. Brown, the local secretary of the Society for the Prevention of Consumption and other Forms of Tuberculosis, writes to the Belfast press contrasting the care taken in Ireland to stamp out small-pox, while 10,000 times as many deaths are due to consumption, to prevent the spread of which little is done. Some attention is being drawn to the matter in Belfast, but Lisburn, says Mr. Brown, is in a worse condition with regard to consumption, while the rural districts are being more than decimated by the white plague. He urges the urban and rural councils to make a rate (as has been done in Cork) so as to bring the benefits of sanatorium treatment within reach of all sufferers. The educating effect of a month's residence in such institutions would be of the greatest value. Mr Brown points out how utterly unsuited for the purpose of sanatoriums workhouses would be while there are numbers of country houses with beautiful, well-sheltered grounds lying vacant all over Ireland which would suit admirably. It is not want of opportunity but want of interest which prevents progress in the matter.

Jan. 12th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Out-patients at the Hospitals and Dispensaries.

THERE is at Paris in the hospitals and dispensaries of the Assistance Publique a very complete system for the giving of gratuitous advice and the poor may there obtain all necessary information for the treatment of illness in their own homes. Advice has always been given hitherto in the course of the day and generally in the forenoon, but the municipal representative for the Quartier du Mail, M. Léopold Bellan, will at the next meeting of the municipal council propose that similar opportunities should be given in the evening as well. His arguments in support of the innovation will be as follows. Under the present arrangements many workmen lose too much time in attending the hospitals and sometimes their employers object to it. They put off seeing a medical man as long as possible and from this cause derangements of health which might perhaps have been insignificant if treated at the beginning become aggravated through neglect, until the patient is at last unable to work and may even have to go into a hospital. This misfortune would be avoided if advice were given in the evening when the working classes have left their employment for the day. Even as a question of municipal interest there would be an advantage in poor persons having an opportunity of seeing the medical officers of the Assistance Publique as soon as they felt themselves unwell, for if the illness were taken in time fewer days in hospital would have to be paid for and less relief would be required for destitute families. M. Bellan knows that the medical officers of the Assistance Publique have a great deal to do and he does not wish to overwork them. He only wishes that the experiment should be tried of having one or two evening attendances a week in each hospital district *(circonscription hospitalière)* which could be done by their medical officers giving two hours in the evening once every three weeks. M. Bellan professes to know that the Assistance Publique takes a favourable view of his proposal.

A Victim of Hypnotism.

A remarkable and complicated case has just come before the judicial authorities at Versailles. A woman is alleged to have committed suicide in consequence of the criminal machinations of a person who hoped to inherit the property of the deceased and accordingly suggested suicide to her. It will have to be ascertained in the first place whether the facts are as stated and in the second place whether the offence, if any, is punishable, for questions relative to hypnotism were not foreseen a century ago when the statute was drawn up. An outline of the case is as follows. A married couple named C., very respectable people of independent means living at Marly-le Roi, had for neighbours a married couple named M. The two families soon became friendly but Monsieur C., finding that his wife's head was turned by spiritualistic procedures with which Monsieur and Madame M. occupied themselves, forbade the latter to come to his house. Until the death of Monsieur C.

two years ago the M. family kept themselves in the background, but the prosecution alleges that Madame M. now resumed her former acquaintance with his widow and easily gained her confidence. Monsieur M., it should be remarked, was very old and infirm and seems not to have known what was going on. The two women practised table turning, invoking various spirits, and among them that of the late Monsieur C., who was constantly made to say that he was impatiently waiting for his wife to rejoin him. The widow's mind soon became affected and her health declined by degrees. The *séances* were held every day and at last the deceased insisted that his wife must come to him not later than the end of the year 1903. According to the prosecution Madame M. in the darkened room imitated the voice of Monsieur C. Moreover, she obtained from Madame C. a will in her own favour disinheriting the natural heirs of the testatrix. The widow told everybody that she could not long survive her husband and that she would disappear before the end of the year. Towards the second fortnight of December she directed her tradespeople not to supply her with anything more and she died suddenly on Dec. 22nd. The death was at that time supposed to be due to natural causes and the funeral took place, but when it was found that the deceased had bequeathed everything to Monsieur and Madame M. suspicion was aroused and a judicial inquiry was opened. It will be very difficult to determine whether the cause of death was natural or not. It will also be matter for consideration whether Madame C. at the instigation of her friend hastened her own death for the purpose of rejoining her husband, and whether the mental excitement of the spiritualistic meetings might have contributed to the fatal issue. During a search made by the police at the residence of the M. family numerous pamphlets on occult sciences, spirit photographs, and bottles of laudanum and digitalis were discovered. A similar search was made at the residence of Madame C., but all her correspondence, papers, and accounts were found to have passed into the possession of Madame M. who is now in prison at Versailles. The necropsy showed that death was due to rupture of the muscular wall of the heart, a lesion which would dispose of the hypotheses of poisoning or suicide, but portions of the viscera have nevertheless been taken for analysis.

Sleeping Sickness.

The readers of THE LANCET will not have forgotten the account[1] which I have already given of this strange disease which is attributed to the bite of the tsetse fly. Three negroes suffering from the disease were recently shown before the Academy of Medicine and were then transferred to the Hospital of the Association des Dames Françaises at Auteuil. The youngest of the three, Bobenghi by name, died on Dec. 7th, 1903, at the age of 14 years. The final stage of his illness was one of those cataleptic attacks which frequently occur in young patients suffering from sleeping sickness. On Jan. 6th, 1904, Makaya, aged 30 years, succumbed in his turn. His death was unexpected, for he seemed to be recovering and appeared to be less ill than the remaining patient, Saloman, who survived him but who, nevertheless, is now dead. Makaya had no particular complications but his attacks of sleep were more profound than usual. Saloman slept nearly all day and could with difficulty be awakened to take nourishment. Sleeping sickness continues to make terrible ravages in French Congo and in three years' time out of 100.000 negroes 38 000 have fallen victims to it. Despite the efforts of Dr. Wurtz and of the other medical men who are studying the disease but little advance has yet been made as to its treatment. Makaya lived for six months after being bitten.

Jan. 12th

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Sodium Sulphocyanide in the Treatment of Syphilitic Headache.

Dr. Pauli recommends sodium sulphocyanide (NaCNS) in the treatment of syphilitic cephalalgia. In the pre eruptive stage of syphilis, when painful headache occurs, small doses of this substance (from four to eight grains per day) have a salutary effect. Also in the later stages of syphilis if there is tormenting dull headache not confined to any particular region and with characteristic exacerbation during the night 30 grains of sodium sulphocyanide per day are often very useful.

A Peculiar Skin Disease in Butchers.

Dr. Matzenauer has observed six cases of a peculiar dermatosis in persons employed in butchers' shops. The patients had thickening of the skin on the hands and fingers very similar to keratoma. The thickening might amount to as much as one-fifth of an inch and the surface of the skin was so thickly covered with pits and depressions that it almost resembled a sponge; the affection was localised on the palm. There was never any inflammation surrounding the callosities. The disease showed the same appearance as keratoma palmare (et plantare) hereditarium, but it differed from that condition inasmuch as it did not develop in childhood but only in adult life and disappeared when the patients changed their occupation. It was also different from chronic eczema with callosities. In keratosis arsenicalis the thick hard skin has a coarse uneven surface, not the peculiar sponge-like honeycombed surface of the dermatosis now described. All the patients worked in butchers' shops, where they were employed in removing hair from pigs by immersing them in hot water and rubbing them with colophony. The disease was due to the combined effect of hot water and colophony. Hot water itself caused only eczema lotricum, as met with in laundresses and bath attendants, but colophonia made the epidermis loosen and swell and this was the cause why butchers used it for the removal of hair from the carcasses of pigs. Histological examination of the skin in this disease showed only pure hyperkeratosis.

Reflex Effects on the Pulse.

The researches of Dr. Heitler have already shown that mechanical irritation (1) of the region of the liver or heart, and (2) of the sternum, skin, muscles, bones, and mucous membranes increases the volume of the pulse. Further investigations have proved that mechanical irritation of the above-mentioned regions may also cause a diminution of the pulse. Percussion on the region of the liver, heart, or sternum makes the pulse rise, but pressure on the same regions reduces the pulse during the continuance of the pressure. In many individuals Dr. Heitler observed that diminution of the pulse was produced by shutting the eyes and that the pulse increased again on opening the eyes. This effect was evidently due to the influence of light.

Jan. 11th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Prevalence of Scarlet Fever.

SCARLET fever has become epidemic to an alarming extent at Mount Morgan, Queensland. The hospital accommodation is taxed to its utmost limits and arrangements have been made for extra temporary accommodation for the patients.

Preservatives in Food.

In March last the Board of Health of New South Wales made certain regulations with regard to the use of preservatives in food to which reference has been previously made in these columns. In consequence of representations from various industries affected by these regulations a select committee of the Legislative Assembly was appointed to inquire into the question. The conclusions of the committee were as follows:—

1. That as regards butter there can be no question as to the necessity or harmlessness for the use of up to 35 grains of boracic acid to the pound since this amount is recommended by the English departmental committee and is the amount fixed as permissible by the regulations of the Boards of Public Health both in New South Wales and Queensland.
2. That as regards milk, if there is sufficient care in handling and rapidity in distribution, chemical preservation is unnecessary.
3. That as regards condensed milk, of which there are two varieties, sweetened and unsweetened, the use of sugar in the former and sterilisation in the latter, combined with hermetically sealing in air-tight tins, renders the use of a chemical preservative unnecessary.
4. That as regards concentrated milk, which your committee recognise as a trade name applied to a further description of condensed milk, the use of 35 grains of boracic acid to the pound is necessary.
5. That as regards cream for consumption as such, for the proper maintenance, expansion, and development of the trade, and to bring

[1] THE LANCET, August 29th (p. 636), Oct. 31st (p. 1263), and Nov. 14th (p. 1403), 1903.

this nutritious article of food within the reach of every householder at a reasonable price, the use of 18 grains of boracic acid to the pound is necessary.

6. That the use of 35 grains of boracic acid to the pound of butter and 35 grains of boracic acid to the pound of concentrated milk and 18 grains of boracic acid to the pound of table cream will cause no injury to health and should be permitted.

7. That having in view the right of people to know what any food stuff consists of, vendors of these articles containing preservatives should include on the label on the package, tin, or containing vessel, and in conformity with the rest of the label a statement setting forth the nature and quantity of the preservative contained therein; and in cases where a label is not ordinarily fixed then a special label to that effect should be affixed.

And your committee recommend that the regulations made under the Public Health Act should be amended and brought into conformity with the above conclusions.

The Birth-rate Commission.

The President of the Birth-rate Commission in New South Wales has applied for an extension of time in which to send in a report. It is believed that evidence taken will show that it is the women of the community who are opposed to families, partly on the ground of the physical pain of childbearing and partly owing to the restriction of duties and pleasures resulting from maternity. The evidence of druggists is said to show that there is a large sale of "preventives," chiefly to women of the upper and middle classes. The distaste for child-bearing is shown to bear a corresponding ratio to "intellectual" status. This goes side by side with postponement of marriage in the same classes, and curiously enough, with certain nationalities. For example, the births to women born in New South Wales average considerably lower than to those born in any part of the United Kingdom and most European countries.

Infant Mortality.

Not only is there a declining birth-rate but also an excessive infantile mortality in New South Wales. With a view of diminishing this in Sydney Dr. W. G. Armstrong, the health officer, has recommended that a formula for the proper care and feeding of infants should be prepared, printed, and sent by post to all households in thickly populated and poor districts in which a birth had been registered during the last six months.

Care of Neglected Children.

At a conference of the Christian Union Senator Dr. Mackellar stated that during the last 20 years between 11,000 and 12,000 children had been dealt with by the State Children's Relief Board. He found that children whose fathers had deserted them and whose mothers were unable to support them numbered 2885; in 690 cases the fathers were in gaols and the mothers were destitute; in 282 the fathers were drunkards and the mothers were unable to support them; in 3284 the fathers were dead and the mothers were unable to support them; in 318 the mothers were prostitutes; in 137 the children were foundlings; in 31 the fathers had deserted them and the mothers were living in adultery; and in 97 the fathers were dead and the mothers were living in adultery. He had very good evidence that these children, removed from their vicious surroundings and placed in properly conducted homes, were no worse than the ordinary members of the community.

Lunacy Bill in Victoria.

The Bill to amend the Lunacy Act has been further considered in the Victorian Parliament. The proposal to create a Board of Lunacy was abandoned. The salary of the inspector-general, whose responsibilities are very great without a board, was increased to £1500 a year. A provision was inserted that the inspector-general must be a medical man.

Proposal to remove the Metropolitan Lunatic Asylums.

A deputation waited on the Premier of Victoria recently to urge that the present sites of the lunatic asylums at Kew and Yarra Bend should be sold and that new buildings should be erected on a less valuable site farther from the city. It was pointed out that the present buildings were so faulty in construction as to be quite unsuitable for the proper treatment of the insane. There were about 800 acres in the asylum reserves valued at £200 an acre. Plenty of land within ten miles of Melbourne suitable for the purpose could be obtained for £10 an acre. The Premier replied that he would take the proposals into consideration and would consult his colleagues but he could promise nothing.

The Treatment of Consumption.

The treatment of consumption by special hospitals and sanatoriums is far from satisfactory in Australia. In New South Wales the movement to commemorate the late Queen Victoria took the form of a fund to establish homes for consumptives. The committee took over the existing home at Thirlmere, which contains 42 beds, and it is always full. The last report shows that 136 patients were received for the year, of whom 96 recovered sufficiently to be able to resume their ordinary duties and in three the disease was completely arrested. During last year the executive committee decided to build another home for the treatment of those afflicted in the very early stage of the disease. Land was purchased and wards to accommodate 20 patients were built, together with administrative quarters for the matron, the nurses, and the resident medical officer. This entailed an outlay of about £5000 and the home or sanatorium, which is situated at King's Tableland, Wentworth Falls, was opened in February last. The committee feels that it is incumbent upon it to supply still further accommodation and this will mean the using up of most of the funds, and will further reduce its income. Neither the public nor the Government, however, seems inclined to provide the necessary funds. In Victoria there are two sanatoriums, one at Echuca, and the other at Macedon, and two country hospitals take a limited number of cases. The provision is utterly inadequate. The committee of the Austin Hospital takes advanced cases and is still squabbling with the Government and the residents of Heidelburg about providing more accommodation with the money given by Mr. Kronheimer for the special purpose.

Hospital Affairs.

At the Royal Prince Alfred Hospital, Sydney, Dr. C. B. Blackbourne has resigned the position of medical superintendent and Dr. A. H. Macintosh has been elected in his place. Dr. Blackbourne and Dr. E. Fairfax have been appointed assistant physicians; Dr. H. Taylor Young has been appointed assistant gynæcologist, and Dr. H. Russell Nolan assistant surgeon for diseases of the ear, the throat, and the nose. The matron, Miss M'Gahey, has resigned and the board will invite applications for her post in Great Britain, Canada, and America.

The British Medical Association and the Australian Natives Association in New South Wales.

A well-attended public meeting was held at the Balmain town-hall recently to discuss the relations between the Australian Natives Association and the medical profession. The chairman explained the position of the Balmain branch of the Australian Natives Association. It had been formed in June, 1901, had become affiliated with the Balmain United Friendly Societies' Dispensary, and for 12 months matters had gone along smoothly. Then the dispensary board had been urged by the British Medical Association to sever its connexion with the Australian Natives Association, and in May, 1902, a conference between the dispensary board and the medical officers had taken place, the latter taking up the position that the Australian Natives Association was not a genuine benefit society established for philanthropic purposes but for political purposes, and that it was a society prejudicial to the interests of the medical profession. Mr. Martin, president of the Australian Natives Association, said that the British Medical Association had singled out the Australian Natives Association for public attack—and he said public advisedly—because it was a new society and therefore it was thought one that would be easily crushed and made an example of. If it beat the Australian Natives Association then it would go for the other friendly societies. The British Medical Association had no sympathy with friendly societies and had frankly admitted that it would like to see them "wiped out."

Obituary.

The profession in Melbourne has suffered a great loss by the sudden death of Dr. William Butler Walsh in his forty ninth year, he having been born at Pau, France, in 1854. Dr. Walsh was the son of the late Rev. E. Walsh, a clergyman of the Church of England. He was educated at the Tipperary grammar school and at Trinity College, Dublin, where he graduated as B.A. and M.D. He was also a Fellow of the Royal College of Surgeons in Ireland. For two years he acted as medical officer to the P. and O. Company. He arrived in Melbourne in 1881 and soon established a very extensive practice in Kew. A few months ago he established himself in Collins-street, Melbourne, as a consulting physician. Dr. Walsh was for some years examiner in anatomy in

the University of Melbourne. He was recently appointed assistant physician to St. Vincent's Hospital and was a vice-president of the Medical Society of Victoria. Dr. Walsh enjoyed in a peculiar manner the esteem of the profession, not only on account of his capability but also because of his great personal charm, his gentle, courteous, considerate manner, his strict maintenance of the best traditions of the profession, and his high moral character, qualities which also gained him the personal friendship and love of all his numerous patients.—Dr. R. T. Wylde, who died recently at Semaphore, South Australia, was one of the oldest medical men in that colony. He took his M.R.C.S. diploma 60 years ago. He was the author of a useful book on floriculture and, in his day, was a most popular and capable physician enjoying a large practice.

Dec. 8th, 1903.

Obituary.

ROBERT JAMES BLAIR-CUNYNGHAME, M.D., F.R.C.S., M.R.C.P. EDIN., J.P., F.R.S. EDIN.

Dr. R. J. Blair Cunynghame, who died on Dec. 23rd last at his residence in Edinburgh, was for many years an assistant to the late Professor Saunders who held the chair of pathology in the University of Edinburgh and frequently lectured for him. Though a man of independent means he studiously followed his profession and at various times held several important appointments. He studied medicine in London, Berlin, Prague, and Vienna, and graduated as Doctor of Medicine in the University of Edinburgh in 1862. In the same year he obtained the gold medal of this University for forensic medicine. Four years later he obtained the Fellowship of the Royal College of Surgeons of Edinburgh, of which College he was made President in 1892, and became a Member of the Royal College of Physicians of Edinburgh in 1877. He was a Fellow of the Royal Society of Edinburgh and at one time President of the Royal Medical Society of Edinburgh. He was also a member of the Edinburgh Medico-Chirurgical Society and was an examiner at the Royal College of Surgeons of Edinburgh. He held the post of superintendent of statistics in the Registrar General's department in Scotland, was a late physician of the Royal Hospital for Sick Children, Edinburgh, and was at one time resident physician to the Royal Infirmary, Edinburgh.

HENRY BOYD CARDEW, M.R.C.S. ENG., L.R.C.P. LOND.

Mr. Henry Boyd Cardew, who has just died at his residence, Oriel Lodge, Cheltenham, after a very short illness, was the elder son of Major-General Henry Cardew, a retired officer of the Royal Artillery. Upon leaving Cheltenham College, where his early education was received, he entered at St. Bartholomew's Hospital and eventually took the diplomas of the Royal College of Surgeons of England and the Royal College of Physicians of London in 1890. Returning to Cheltenham he became house surgeon at the General Hospital, retiring from the position of senior house surgeon in 1894 to undertake private practice. But he continued for several years later to hold the position of honorary medical officer to the branch dispensary of the hospital and to the Victoria Home. The deceased was a distinguished figure in local sport and athletics, in the promotion of which he was an energetic worker, and he often figured as a judge at various gatherings, more particularly so at aquatic sports. He was married in 1895 to Miss Agnes Moore, third daughter of Mr. Thomas Moore, F.R.C.S., of Blackheath, and leaves a widow and four young daughters to mourn his death. The deceased, who was only 37 years of age, was one of the most popular medical men in Cheltenham and one of the best known and most highly esteemed members of local society.

JOHN ANDERSON, M.R.C.S. ENG.

MANY from the Buchan district of Aberdeenshire will hear with deep regret the news of the death of Mr. John Anderson, which took place on Dec. 9th, 1903, at his residence, The Crescent, Longside, Aberdeenshire, in the ninetieth year of his age. Although it is about a quarter of a century since Mr. Anderson gave up the extensive practice which he carried on in town and country and retired into private life, he is still well remembered by the older natives of the town and district. He was the last survivor of his compeers in Peterhead, Mr. Patrick Jamieson, F.R.C.S. Edin., who for long was contemporary with him, having died a few years ago. Mr. Anderson was educated at the University of Aberdeen and became M.R.C.S. Eng. in 1836. Of somewhat bluff exterior he was a man of kindly disposition and was recognised as a devoted and skilful medical adviser. His wife died about ten years ago and he is survived by an only daughter.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examination held recently the following candidates passed in the subjects indicated:—

PART I.

Biology.—E. G. Brisco-Owen and A. Samuel, Cardiff; and M. V. Webb, Royal Free Hospital.
Chemistry.—C. J. Wolfe, Edinburgh.
Materia Medica and Pharmacy.—J. M. Lynch, Cork, and M. Rathbone, Royal Free Hospital.

PART II.

Anatomy.—A. J. K. Brayton, Liverpool; F. H. W. Brewer, St. Bartholomew's Hospital; F. M. Cunningham, Royal Free Hospital; H. J. Duske, St. Mary's Hospital; R. C. T. Evans, University College Hospital; J. C. Fletcher and M. S. Jevons, Royal Free Hospital; E. W. Lowry, St. Bartholomew's Hospital; J. M. Lynch, Cork; and W. J. G. Gayton, London Hospital.
Physiology.—F. H. W. Brewer, St. Bartholomew's Hospital; H. J. Duske, St. Mary's Hospital; R. C. T. Evans, University College Hospital; M. S. Jevons, Royal Free Hospital; J. M. Lynch, Cork; and H. W. Phillips, Manchester.

THE ROYAL FREE HOSPITAL.—Princess Christian (the president), accompanied by Princess Victoria of Schleswig-Holstein, visited the Royal Free Hospital, Gray's-inn-road, on Wednesday afternoon last, and distributed the presents from the Christmas-tree which she had provided for the patients and nurses.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The annual charter dinner will be held at the College on Saturday, Feb. 13th. His Excellency the Lord Lieutenant has graciously accepted the invitation of the President and council to be present at the dinner. As the accommodation will of necessity be limited Fellows desirous of being present at the dinner should send their names and those of any guest whom they may wish to be invited to the Registrar, Royal College of Surgeons, Dublin.

DONATIONS AND BEQUESTS.—Miss Louisa and Miss Mary Lawrence have given a donation of £500 to the appeal fund in connexion with St. Bartholomew's Hospital in memory of their father. An additional £500 is promised in 1905.—By the will of the late Mr. John Penn, M.P. for Lewisham, a sum of £2000, free of duty, is bequeathed to the Miller Hospital and Royal Kent Dispensary, Greenwich.—Mr. Philip Hedgcock has by his will left £1000 to the Sussex County Hospital, £300 to the Brighton Hove, and Preston Dispensary, and £300 to the Sussex Eye Hospital.

VACCINATION EXPENDITURE.—At a meeting of the Helston (Cornwall) board of guardians held on Jan. 2nd it was reported that for the four years 1896-99 previously to the passing of the recent Vaccination Act, 1380 primary vaccinations were performed in the Helston union at a total cost of £314. There was no case of revaccination. During the four years subsequent to the enforcement of the Act—namely 1900-03—there were 2317 primary vaccinations and 561 revaccinations performed, the expenditure being £529. Several of the guardians expressed great surprise at the increase in the expenditure and a committee was appointed to petition the Local Government Board on the subject.—At the meeting of the Warmley (Gloucestershire) board of guardians, held on Jan. 5th, it was stated that in the Kingswood, Oldland, and Siston district for the four years preceding the passing of the Vaccination Act 837 vaccinations were performed at a cost of £37, whereas during the four years following the enforcement of the Act there were 845 vaccinations which involved an expenditure of £285. It

was also reported that in another district of the union the cost for the four years preceding the Act was £11, while for the four years following the enforcement of the Act it was £130.

CENTENARIANS.—Mrs. Eliza Jenkins, of Otterford, near Taunton, attained the age of 105 years on Jan. 1st; she is stated to be the oldest resident in the county of Somerset.—Mrs. Ann Davies, of Penrallltffynnon, Cardiganshire, died very recently, aged 103 years.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO ROAD S.E., FOUNDED A.D. 1816.—Three original plays specially written by officers of the Channel Fleet were produced at the Queen's-gate Hall, South Kensington, on Jan. 13th, on behalf of this institution which has for the greater part of a century relieved over a million poor children and which is now in urgent need of £50,000 for rebuilding.

THE LATE MR. D'ARCY SUGDEN.—Mr. D'Arcy Sudgen died at his residence, Buckfastleigh, Devon, on Dec. 30th, 1903, from pneumonia following typhoid fever which he contracted in the discharge of his professional duties. He was the third son of the late Mr. W. Sugden of Bath and received his medical education at St. Bartholomew's Hospital, taking the qualifications of L.R.C.P. Lond. and M.R.C.S. Eng. in 1876 and 1877 respectively. Mr. Sugden was for some time in Queensland, Australia, where he held appointments at the Maryborough Hospital and the Bundaberg Hospital. He went to Buckfastleigh about two years ago and at the time of his death was 50 years of age.

FOLKESTONE MEDICAL SOCIETY.—The annual meeting of this society was held on Jan. 8th at the house of the President, Dr. T. Eastes. The following officers were elected:—President: Dr. W. J. Tyson. Vice-Presidents: Dr. T. Eastes, Dr. J. Hackney, and Dr. C. E. Perry. Committee of Management: Mr. J. W. Thornton Gilbert, Mr. J. R. P. Phillips, Mr. H. A. Powell, Dr. E. G. Sworder, and Dr. L. Wainwright. Library Committee: Mr. A. Randall Davis, Mr. J. Keay, and Mr. F. B. Madden. Honorary secretary and treasurer: Dr. J. E. G. Calverley. It was decided to make the following donations from the society's funds: to the Epsom College, £2 2s.; Kent Benevolent Society, £1 1s.; and the Folkestone District Nurse, £1 1s.

PRESENTATION TO A MEDICAL PRACTITIONER.—On Jan. 7th, at the St. John's Jubilee Room, Worcester, there was a large gathering of patients and friends of Dr. J. Ronald Polson, when an elaborately illuminated congratulatory address and a silver tray were presented to Dr. and Mrs. Polson. Dr. Polson, who has practised at St. John's since 1887, has earned the affection of the whole of the inhabitants of St. John's and district and his marriage was made the occasion of presenting to him some tangible form of their esteem. The tray bore the inscription: "Presented to Dr. and Mrs. J. Ronald Polson upon the occasion of their marriage, Feb. 29th, 1903, by friends and patients of Dr. Polson. 'I was sick, and ye visited me.'" The subscribers numbered nearly 400, embracing all sorts and conditions of men differing in creed and politics.

LITERARY INTELLIGENCE.—The Orient Press, late the Primrose Press, announces the early appearance of "The Duties of the Heart," translated from the Arabic of Rabbi Bachye, with an introduction by Elwin Collins; "The Sayings of Confucius," "The Odes of Confucius," and "The Sayings of the Brothers of Sincerity." The teachings of this interesting sect, which flourished in Persia and Arabia in the ninth and ten centuries, will be edited with an introduction by Dr. Paul Brönnle. Dr. S. A. Kapadia, secretary of the Northbrook Society, has the general superintendence of the works upon Indian religions and literature which the Orient Press intends to place before the public.—With the February number of *Knowledge* a development of its scope and contents is contemplated by its directors. It has during its 22 years' career been chiefly devoted to astronomy and the natural sciences, but in future it will add physics, electricity, and applied science to these subjects. In order the more suitably to effect this alteration *Knowledge* will be amalgamated with the *Illustrated Scientific News* and will be issued under the title of *Knowledge and the Illustrated Scientific News*.

BOOKS, ETC., RECEIVED.

ASSOCIATION OF AMERICAN PHYSICIANS (Secretary, Dr. Henry Hun, 149, Washington-avenue, Albany, N.Y.).
Transactions of the Association of American Physicians. Eighteenth Session, held at Washington, D.C., May 12th, 13th, and 14th, 1903. Vol. XVIII. Price not stated.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.
A Pocket Dictionary of Hygiene. By C. T. Kingzett, F.I.C., and D. Homfray, B.Sc. Second edition. Price 2s. 6d.

BROWNE AND NOLAN, LIMITED, Nassau-street, Dublin.
Transactions of the Royal Academy of Medicine in Ireland. Vol. XXI. Edited by John B. Story, M.B., F.R.C.S., General Secretary. With index, Vol. I. to XX., compiled by E. J. McWeeney, M.D. Price not stated.

CITY OF LONDON BOOK DEPOT, White-street, Moorfields, E.C.
Cusack's Biology. By William E. Clarke, A.R.C.S. (London), Lecturer in Biology at the Day Training College, Moorfields, E.C. Part I., Plant Life. Part II., Animal Life. Price 2s. 6d. net.

DAWBARN AND WARD, LIMITED, 6 Farringdon-avenue, E.C.
The Insurance Blue-book and Guide for 1903-04. Edited by Arthur Champness. (Thirty-first year of publication.) Price 2s. net.

HARPER AND BROTHERS, 45, Albemarle-street, W.
New Conceptions in Science. By Carl Snyder. New and revised edition. 1904. Price 7s. 6d. net.

PENTLAND, YOUNG J., Edinburgh and London.
The Edinburgh Medical Journal. Edited by G. A. Gibson, M.D., F.R.C.P. Edin., and Alexis Thomson, M.D., F.R.C.S. Edin. New series. Vol. XIV. Price not stated.

SANITARY PUBLISHING COMPANY, LIMITED, London.
Disinfection and the Preservation of Food. Together with an Account of the Chemical Substances used as Antiseptics and Preservatives. By Samuel Rideal, D.Sc. London, Fellow of University College, London; Fellow of the Institute of Chemistry, of the Chemical Society, and of the Sanitary Institute of Great Britain. Price not stated.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION (Secretary, Dr. W. D. Haggard, Nashville, Tenn.).
Transactions of the Southern Surgical and Gynecological Association. Vol. XV. Fifteenth Session, held at Cincinnati, Ohio, Nov. 11th, 12th, and 13th, 1902. Edited by W. D. Haggard, M.D. Price not stated.

THE BAKER AND CONFECTIONER, LIMITED, 61 and 62, Chancery-lane, W.C.
Studies for the Bakehouse: being Lectures delivered to the Ayrshire Class. By A. Kirkland, Irvine. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDREW, WILLIAM, M.B., C.M. Edin., has been appointed Public Vaccinator for the Lezant District by the Launceston (Cornwall) Board of Guardians.

BARKER, F. J., M.B., C.M. Glasg., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

BARWELL, HAROLD, M.B. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Metropolitan Ear, Nose, and Throat Hospital, Gratton-street, Fitzroy-square.

BONNEY, W. F. VICTOR, M.S., M.D. Lond., F.R.C.S. Eng., M.R.C.P. Lond., has been appointed Lecturer in Practical Midwifery in the Middlesex Hospital Medical School.

CANDLER, GEORGE, B.A. Cantab., L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Black Torrington, Bradford, and Cookbury Districts of the Holsworthy Union (Devon).

EMANUEL, J. G., M.D. Lond., M.B., Ch.B. Birm., M.R.C.P. Lond., has been appointed Physician to Out-patients at the Birmingham and Midland Free Hospital for Sick Children.

GREY-EDWARDS, H., M.B., B.Ch. Dub., has been appointed Honorary Ophthalmic Surgeon to the Carnarvonshire and Anglesey Infirmary.

LISTER, W. T., B.A., M.B., B.C., F.R.C.S., has been appointed Assistant Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.

MACKENZIE, E. G., M.B. Toronto, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

MILWARD, F. VICTOR, B.A., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Surgeon to Out-patients to the Birmingham and Midland Free Hospital for Sick Children.

NORMAN, R. H., M.D. Lond., B.S., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Anæsthetist to the Great Northern Central Hospital.

PRICE, E. O., M.D., C.M. Edin., has been appointed Honorary Medical Officer to the Carnarvonshire and Anglesey Infirmary.

STAMM, L. E., M.D., B.A., B.Sc. Lond., has been appointed Medical Officer to the British Home and Hospital for Incurables, Streatham Common, S.W.

THORNTON, BERTRAM, M.R.C.S., L.R.C.P. Lond., J.P. has been appointed Medical Officer of Health of the Borough of Margate.

YOUNG, H. C. TAYLOR, C.M., M.D. Glasg., has been appointed Honorary Assistant Gynæcological Surgeon to the Royal Prince Alfred Hospital, Sydney, New South Wales.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRADFORD WORKHOUSE AND HOSPITAL.—Resident Assistant Medical Officer, unmarried. Salary £125, with rations, apartments, and washing.

CHELTENHAM GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £80 per annum, with board and apartments.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Two House Physicians for six months. Salary at rate of £30 per annum, with board, washing, and residence.

DARENTH ASYLUM (TRAINING SCHOOL AND INDUSTRIAL COLONY), near Dartford, Kent.—Medical Superintendent. Salary £600 per annum, rising to £800, with house, coals, light, washing, &c.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Male Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

LEEDS GENERAL INFIRMARY.—Ophthalmic and Aural House Surgeon. Board, lodging, and washing.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £100 with board and lodging.

LEICESTER INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance.

LIVERPOOL DISPENSARIES.—Head Surgeon, unmarried. Salary £200 per annum, with board and apartments.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Registrar. Honorarium of 50 guineas.

PAPA WESTRAY, ORKNEY.—Lady Medical Officer and Public Vaccinator. Salary £40, with fees, house, and garden.

ROCHDALE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, and washing.

ROYAL BUCKINGHAMSHIRE HOSPITAL, Aylesbury.—Resident Surgeon, unmarried. Salary £100, rising to £120, with board and apartments.

ROYAL EAR HOSPITAL, Frith-street, Soho, W.—Honorary Assistant Anæsthetist.

ST. MARY'S HOSPITAL, Paddington, W.—Casualty Physician. Salary £75 per annum.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Assistant House Surgeon for six months. Honorarium of £25, with board, apartments, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon, for six months. Honorarium of £25, with board and lodging.

WESTMINSTER GENERAL DISPENSARY.—Honorary Surgeon.

YORK COUNTY HOSPITAL.—House Physician. Salary £100 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS

COPEMAN.—On Jan. 9th, at 57, Redcliffe-gardens, S.W., the wife of S. Monckton Copeman, M.D., F.R.S., of a daughter.

HAYWARD.—On Jan. 8th, at Stert-street, Abingdon, the wife of M. Cecil Hayward, M.A., M.B., of a daughter.

REVELL.—On Jan. 13th, at the Briars, West Hill-road, S.W., the wife of Hugh Stanley Revell, of a son.

WORTHINGTON.—On Jan 9th at Hurst House, Chesterfield, the wife of Sidney Worthington, M.D., of a son.

YEOMAN.—On Jan. 9th, at Clark's-hill Prestwich, Manchester, the wife of Stanley Yeoman, M.B. and B.C. Cantab., of a son.

MARRIAGES.

HARDY—VAN BREDA.—On Jan. 7th, at Wynberg, Cape Town, Major William Edmund Hardy, R.A.M.C., to Florence Minnie, eldest daughter of S. Van Breda, of Hauptville, Wynberg.

PLAYFAIR—LEIGHTON.—On Jan. 11th, at St. Andrews, N.B., by the Rev. Canon Winter, Ernest Playfair, M.B., M.R.C.P., son of the late Sir R. Lambert Playfair, K.C.M.G., to Harriet, daughter of the late Henry Forester Leighton, and grand-daughter of the late John Hall Maxwell, C.B., of Dargavel.

DEATHS.

SAUNDERS.—On Jan. 3rd, at Nice, Charles Edward Saunders, M.D., M.R.C.P. Lond., D.P.H. Camb., aged 60 years.

THEOBALDS.—On Jan. 5th, Arthur John Arundel Theobalds, M.B., C.M., of Wargrave, aged 34 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AN UNDESIRABLE HANDBILL.

THE following handbill has been sent to us for our opinion, with a statement that it has been distributed from house to house in the Openshaw district of Manchester.

INDUSTRIAL DISPENSARY

68 BOSWORTH STREET, OPENSHAW.

Open Daily from 9 to 10 A.M., and from 6 to 9 P.M.

Advice and Medicine,	6d.	Visit and Medicine,	1 6.	Midwifery Cases,	15 -.

Resident Physician and Surgeon:

J—— M——, L.R.C.P., M.R.C.S., L.S.A., &c.

(Ex-House Surgeon Preston and Bolton Infirmaries).

THE DISPENSARY WILL BE

OPENED on and after MONDAY, NOV. 16th, 1903.

By Order of the Committee.

We often have to refer to handbills of this kind and there is nothing about J. M.'s specimen that is particularly bad. His fees for advice and visiting are the same that medical officers of many dispensaries have to adopt, while his fee for midwifery is actually a little higher. But such offers of economical medical services should not be distributed broadcast to the patients of other medical men. The only advertisement to which the medical officer of a dispensary is entitled is that which he earns by conducting his professional business in a capable manner.

A CURE FOR STUTTERING.

WE have received a pamphlet through the Church Agency, Limited, entitled "A Permanent Cure for Stuttering," written by Herr Theodore Jacobs, who is styled the director of an international institute for the treatment of stuttering. The pamphlet goes into the question of the origin of stuttering and purports to show that the infirmity is usually psychical and the author narrates cases in proof of this and also in proof of his ability to remedy the condition. He explains with no very conspicuous modesty that stuttering cannot be cured by medical treatment but that it can be cured by becoming a boarder at Schloss X——, where the pupil can converse with him until he is able to enjoy the company of professors and teachers. "It is superfluous," he says, "to describe my treatment more fully and hardly possible to do so as the same thing does not suit everybody." Quite so, but we can imagine many cases the cure of which is not quite so simple as Herr Theodore Jacobs imagines. What, in such circumstances, becomes of the boarder at "Schloss X——"—a somewhat dignified name for a three-storeyed house with a door in the middle and three windows on each side? What becomes of him if conversation with the "Professor" or his assistant leads to no good result? We perceive that payment is made for board, lodging, and instruction in all branches one month in advance, the sum demanded being very moderate. We perceive, also, that every boarder who neglects his studies can be dismissed without any part of his payment being returned. It seems to us that Herr Theodore Jacobs, when he got hold of a severe case, could always send the patient away as an idle student and need not return the cheque. We are not suggesting that this will happen or that it has happened. We are pointing out that, for all the prospectus shows to the contrary, it might happen.

STREET MAPS FOR PUBLIC REFERENCE.

To the Editors of THE LANCET.

SIRS,—How many Londoners are there who can boast that they even superficially know the topography of the city wherein they live? I would suggest that if we require maps to guide us rightly around the Zoological Gardens, parks, and other public places, we require them far more to guide us in the intricate labyrinth of London streets. I know that there are lots of excellent pocket maps to be obtained but it seems to me that large maps might well be provided out of the rates. Why cannot we have official maps of London neatly framed in weather proof cases displayed in convenient and important parts of the metropolis to guide the weary wayfarer who cannot carry a Kelly's Directory in his head? I am, Sirs, yours faithfully,

London, Jan. 9th, 1904. DÆDALUS.

BIRD "PRESERVING."

"A FINE specimen of the rose coloured pastor was shot the other day by Mr. Buggins of ——. It has been entrusted to the care of Mr. Juggins, taxidermist, for preservation." So, or in some similar way, runs an all too common paragraph in the daily press. Mr. E. Kay Robinson thinks as we do that such exploits are pitiable and he writes to the *Times* of Jan. 11th to put on record a rare piece of self-denial on the part of a gamekeeper at Holkham who might have shot a waxwing on two occasions but preferred to "preserve" it in another way. Mr. E. Symonds, the gamekeeper in question,

deserves the public compliment that has been paid him. How many people seem to regard collecting dead specimens as a proof of knowledge of live animals. And how often the keen collector is really quite ignorant of natural history, though by the help of manuals he can class his flower, his beetle, his moth, or his bird.

RED OR BLACK INK FOR PLACARDS.

To the Editors of THE LANCET.

SIRS,—Your correspondent remarks very sensibly and very usefully on the tendency of the red ink with which many placards are printed to fade and on the indistinct appearance of initial letters in red as compared with the remaining letters of a word in black.

No colour is so cheap, so easy to print, or so permanent as black; some reds, however, such as those made with oxide of iron, sulphide of mercury or alizarin (from madder), are very fairly permanent, but many of the most beautiful reds being made from anilin are very fugitive.

The best initials, in my opinion, are those in which the form of the letter is of the same colour—say black—as the rest of the word, its ornamental surroundings being of a different colour—say red.

A plain initial in black, the rest of the word being in red, though not common, would probably prove a good arrangement for catching the reader's eye.—I am, Sirs, yours faithfully,

THEODORE MAXWELL, M.D. Cantab., B.Sc. Lond.,
Honorary Secretary, Amateur Printers' Association.
Woolwich Common, Jan. 11th, 1904.

THE PRESCRIBING OF NAPHTHALIN.

To the Editors of THE LANCET.

SIRS,—In a well-known text-book on "Diseases of Children" it is stated: "Naphthalin is an effective anthelmintic for threadworms." I am writing to ask how it should be dispensed to overcome the disagreeable taste and what dose is suitable for a child five years old and what for an adult.

I am, Sirs, yours faithfully,
Jan. 12th, 1904. M.D. (VICT.).

*** The average adult dose of naphthalin is two to 15 grains, which may be given in cachets or in pills. Numerous references to its employment for threadworms are given in Martindale's Extra Pharmacopœia.—ED. L.

FRENCH QUACK MEDICINES.

A CORRESPONDENT has sent us a circular which he found slipped between the pages of a French magazine and which sets forth in the usual style the advantages of a preparation for anæmia, called Confiture de St. Vincent de Paul. Our correspondent says that an advertisement of the same "cure" also frequently appears in the pages of English Roman Catholic newspapers. There is nothing more disgusting than the way in which vendors of quack medicines call in the aid of religion to puff their wares and some religious houses are not above selling quack medicines. St. Vincent de Paul was a very able organiser and a shrewd man of the world, as well as a saint, and were he alive now he would certainly view with disfavour the attempt to extract money from the pockets of the sick by the attaching of his name to what is probably a simple purgative.

THE JUNGFRAU RAILWAY.

Mr. George E. Walsh, writing on Mountain-climbing Railways in a recent number of the New York *Electrical Review*, says that the station at Eigerwand which has just been opened is the third station on the electric railway up the Jungfrau and is at an altitude of 9405 feet. The electric railway commences at Scheidegg where the steam railway from Lauterbrunnen and Grindelwald ends. This point is 6160 feet above sea level. The first station is at Eiger and the second station is at Rothstock, which is at an altitude of 8270 feet and is two miles from the starting point. The fourth station is at Eismeer and has an altitude of 10,355 feet. This station is completed and the line as far as here is nearly ready for operation. From this point the line will run in time to Jungfraujoch, 11,690 feet, and eventually to Jungfrau, a total height of 13,488 feet, the actual summit of the mountain having a height of 13,670 feet. The gradient of the road in its first four sections is from 15 to 25 per cent. One of the many obstacles which the engineers had to encounter was the employment of men able to work in such a rarefied atmosphere. At 10,000 feet altitude comparatively few men can do hard work for many hours a day; but the selected men from the north of Italy were able to respond to the demands made upon them better than was expected. Mountain sickness frequently thins their ranks and fresh hands have to be obtained from below, but these new men have to be accustomed to the high altitudes by degrees. At 13,000 feet they may have to work in shifts of two hours at a time and then to return to lower levels for rest and recuperation. The company constructing the line pays great attention in every way to the health and comfort of the men. The gauge of the railway is 39 inches. The locomotives are worked by two three-phase motors of various types. The following is reproduced *verbatim*: "The trains are made up of a small locomotive and two trailers coupled on behind. Complete this train weighs about 28 tons and the two trailers will accommodate 80 passengers. The speed of the train is not great, nor is it desirable that it should be, as passengers ascending the mountain frequently desire to study the scenery at different points as they advance. It is intended that the trip up to the summit shall consume about one hour and 40 minutes. This gives the passengers the opportunity to accustom themselves to the change of atmosphere. A sudden rise to the top of such a mountain is dangerous to many people, but with a slow rise it is estimated that not 1 per cent. of tourists will be unpleasantly affected by the air. The train runs on the maximum gradients of 25 per cent. at a speed of 8·5 kilometres [about five and a half miles] per hour, but even this speed will not be maintained at all seasons of the year. Those suffering from mountain sickness can be let off at almost any place along the line where medical attendance can be obtained."

THE LATEST PHASE.

THE modern cheap magazine or periodical is distinguished by the amount of shady advertisements out of which it makes its profits. In a recent number of a periodical, entitled *Home Chat*, appears the following: "Medicine at half price. For 6d. and stamped addressed envelope, I will give you, in English, a copy of your doctor's prescription, whereby you will save half the cost of dispensing same, and know what you are taking; faithful copies guaranteed.—Templeton, 13, Cobden Road, Brighton." We do not know who Templeton may be but we presume that he is a pharmaceutical chemist. How the mere fact of a prescription being in English will save half the cost of dispensing we do not understand, but we think it gross impertinence of Templeton to try to interfere between a medical man and his patient, neither should we have the slightest confidence in his guarantee.

THE MOTOR-CAR IN MEDICAL PRACTICE.

IN continuation of the article on motor-cars which we noticed in THE LANCET of Jan. 9th, p. 134, Mr. A. D. Pithie, L.R.C.P., L.R.C.S. Edin., in the *Car* of Jan. 6th gives his experience of the use of a motor in a country practice.

THE RELATIONS OF HOSPITALS AND LOCAL DISPENSARIES.

To the Editors of THE LANCET.

SIRS,—It is a pity that some definite alliance between the hospitals and the dispensaries (private, provident, and eleemosynary) situated in their neighbourhood cannot be negotiated. In the matter of a second opinion, for instance, why should not the hospital staffs act as consultants for the dispensaries while they are on duty at the hospital? At present when the medical officer of a dispensary wants a second opinion on a case he knows he has only the hospital to which he can appeal. But he knows also that if he sends his patient with a note to the hospital the chances are that he will see that patient no more and will receive no reply to his note. Of course, this is not the case if the letter be sent to a personal friend on the staff, but one cannot always be bothering friends. But it will be admitted that to lose sight of interesting cases is annoying, and yet it is the case at present, except in the special circumstance mentioned above. The patients are absorbed into the hospital either as out- or in-patients and no more is heard of them. If matters were properly arranged the hospitals would act as consultants for the poorer practices and the dispensaries would serve as offshoots of the hospitals for the purpose of obtaining local knowledge and thus eliminating those cases for which hospital charity was not required. These are the cases which at present clog the hospital out-patient and casualty departments and cause waste of the funds urgently needed in other directions.

I am, Sirs, yours faithfully,
W. H. KESTEVEN.

A MEDICAL AUTOMOBILE CLUB.

AN automobile club confined to members of the medical profession has just been formed at Newark, U.S.A., under the title of the Physicians' Automobile Club of New Jersey. The club has been organised for social purposes only, although the establishment of a club garage may be decided on later, while it is hoped to secure a reduction in the costs of motor accessories by purchasing them jointly. A feature of the meetings of the club will be discussions of a practical nature on the various parts of the motor-car and the best methods of taking care of the same.

RACIAL DEGENERATION.

To the Editors of THE LANCET.

SIRS,—Will any of your readers advise me where to obtain reliable statistics or notes on the subject of racial degeneration? Such a source as army recruiting would be valuable.

I am, Sirs, yours faithfully,
Thornleigh, Swinton, Rotherham, Jan. 10th, 1904. B. C. STEVENS.

During the week marked copies of the following newspapers have been received: *Coventry Herald, Birmingham Daily Mail, Reading Mercury, Mining Journal, Local Government Chronicle, Liverpool Courier, Westminster Gazette, Pall Mall Gazette, Daily News, Irish Times, Nottingham Guardian, Aberdeen Free Press (Weekly), Hertfordshire Mercury, Windsor and Eton Express, Standard, South Wales Daily News, Walsall Advertiser, Surrey Advertiser, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 14th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan. 8	29·83	S.W.	0·04	49	48	41	43	46	Foggy
,, 9	29·82	W.	0·01	51	48	39	39	40	Cloudy
,, 10	29·88	S.W.	0·06	54	50	39	42	44	Cloudy
,, 11	29·85	S.W.	0·10	51	47	37	40	41	Overcast
,, 12	29·63	S.W.	0·03	54	52	41	45	46	Foggy
,, 13	29·27	S.W	0·32	67	56	46	52	53	Raining
,, 14	29·98	W.	0·07	66	47	43	41	43	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.) Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.) Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M).

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat, (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (19th).—THERAPEUTICAL SOCIETY (Apothecaries' Hall, Blackfriars).—3.30 P.M. Council Meeting. 4 P.M. Prof. Farmer: Some Recent Investigations on Cancer. Papers:—Dr. T. W. Kelynack: Some Points in the Hygienic Treatment of Pulmonary Tuberculosis.—Dr. G. Duncanson: The Therapeutic Value of Suprarenal Gland Products.

PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Prof. Hewlett: Note on a Method of Examining Water for Bacillus Enteritidis Sporogenes.

ROYAL STATISTICAL SOCIETY (9, Adelphi-terrace, Strand, W.C.).—5 P.M. Paper:—Mr. T. A. Welton: On the Smaller Urban Districts of England and Wales.

WEDNESDAY (20th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Presidential Address: On the Evolution of Vertebrate Animals in Time.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—3 P.M. Educational Meeting. Papers:—Prof. R. B. Wild: University Education for Pharmacists.—Mr. H. W. Gadd: Concurrent Curricula.

FRIDAY (22nd).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Exhibition of Clinical Cases followed by Discussion. Patients will be in attendance from 8 P.M. to 9 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (18th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—5 P.M. Dr. Davis: Diseases of the Kidneys—Nephritis.

TUESDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley: General Remarks on Dislocations and Sprains.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Beevor: Hemiplegia.

WEDNESDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

LONDON TEMPERANCE HOSPITAL (Hampstead-road, N.W.).—4 P.M. Lecture on Diseases of the Stomach.

THURSDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Diseases of the Kidney (continued).

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Mr J. D. Malcolm: Extra-uterine Fœtation.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Mr. H. W. Carson: Abdominal Surgery.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Eden: Demonstration of Gynæcological Cases. (Post-Graduate Course.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Dr. J. E. Squire: Pulmonary Cavities: II., Treatment (illustrated by cases). (Post-Graduate Course.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.). 6.15 P.M. Dr. M. Dockrell: Syphilis. (Chesterfield Lecture.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Batten: Diphtheritic Paralysis and its After Effects.

FRIDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Paget: On Some Surgical Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Batten: Family and Hereditary Disease.

EDITORIAL NOTICES.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1903, which was completed with the issue of Dec. 26th, were given in THE LANCET of Jan. 2nd.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1903 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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